Joint Integrated Analysis Tool (JIAT) User Guide

September 2009

United States Army
Financial Management & Comptroller
MDCCLXXV

ODASA
Cost &
Economics

JIAT

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JIAT OVERVIEW

JIAT is a system that allows the end-user to run a wide variety of models or query a variety of databases from their desktop utilizing web technology. JIAT end-users include cost analysts, requirements professionals and engineers. In this overview section we provide an overview of what JIAT is, and understand how it can help it's end-users.

The following Chapter begins our exploration of JIAT.

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CHAPTER 1 – GETTING STARTED WITH JIAT

The Joint Integrated Analysis Tool (JIAT) is a web server and desktop client application designed to help bring cost estimating, engineering design and capability/performance/operating and support data together to support integrated analysis. JIAT consists of two major applications for end-users; a web application and a client application which can be run from within Excel or the Automated Cost Estimator (ACE). Additional client applications will be developed and distributed as JIAT becomes more popular. In this section we provide an overview of JIAT's major applications, provide a picture of its architecture, and show you how to log onto the JIAT website.

Estimating Challenges:

The Army lacks a multi-functional automated capability to provide integrated analysis that brings together cost estimating, engineering design, capability/performance data and modeling and simulation (M&S) tools that are appropriate for current or emerging technologies. Currently, cost estimators, engineers, capability performance analysts and the M&S community operate independently when beginning to look at new technologies and programs to support the war fighter. This independence can lead to duplication of work or gaps in analysis when the pieces of the project are brought together. In addition, estimators, engineers, analysts and M&S operators end up working in a wide variety of tools each requiring independent software applications and knowledge of each application in order to run them properly. Setting up and acquiring each application requires resources that could be better utilized on analysis projects.

The JIAT System Concept:

ODASA-CE developed a web based system, hosted at an Army Data Center (ADC) server farm, that facilitates seamless linkages between cost estimating tools, engineering design models, modeling and simulation, capability/performance data and operations and support databases. JIAT is a system that allows end-users to run a wide variety of models and databases from their desktop. Models are made available to end-users through a distributed system of JIAT Model Providers, hosted as web services at the ADC site, but also provides for hosting across the Internet. Each Provider is a collection of models or databases. The user can search for models and databases across all Providers. Once the desired model or database is found the user can run that model or query the database to produce results to include in a cost estimate or analysis. The JIAT system consists of five major entities:

- **JIAT Website** – A .mil hosted website that allows the end-user to not only find Models, but to run them right from the user's browser.
- **JIAT Client** – An application that allows the end-user to run Models using the JIAT architecture, but from within a desktop application. The two desktop clients currently available are the JIAT Excel Add-In and ACE Model Runner Plugin.
- **JIAT Provider** – Software (i.e. a web service) that hosts one or more Models made available to JIAT users. These Providers typically "wrap" the functionality of an existing application or database (e.g., ACEIT, SEER, PRICE, FORCES, OSMIS, etc.) to process Model run requests by the end-user.
- **JIAT Model** – A named element available from a JIAT Provider that accepts a set of input values and produces a set of output values. Application runs and a database query are examples of a Model.

- **JIAT Server** – The central switchboard for communicating between a JIAT client application and the JIAT Providers. All Model run requests are routed here first and then passed on to the appropriate Provider for execution. Once registered with the JIAT server, a Provider and its Models become available to the JIAT client applications.

The JIAT System Architecture:

The JIAT System architecture consists of pieces that reside on the JIAT web server and the user's workstation. Figure 1 outlines the JIAT system architecture.

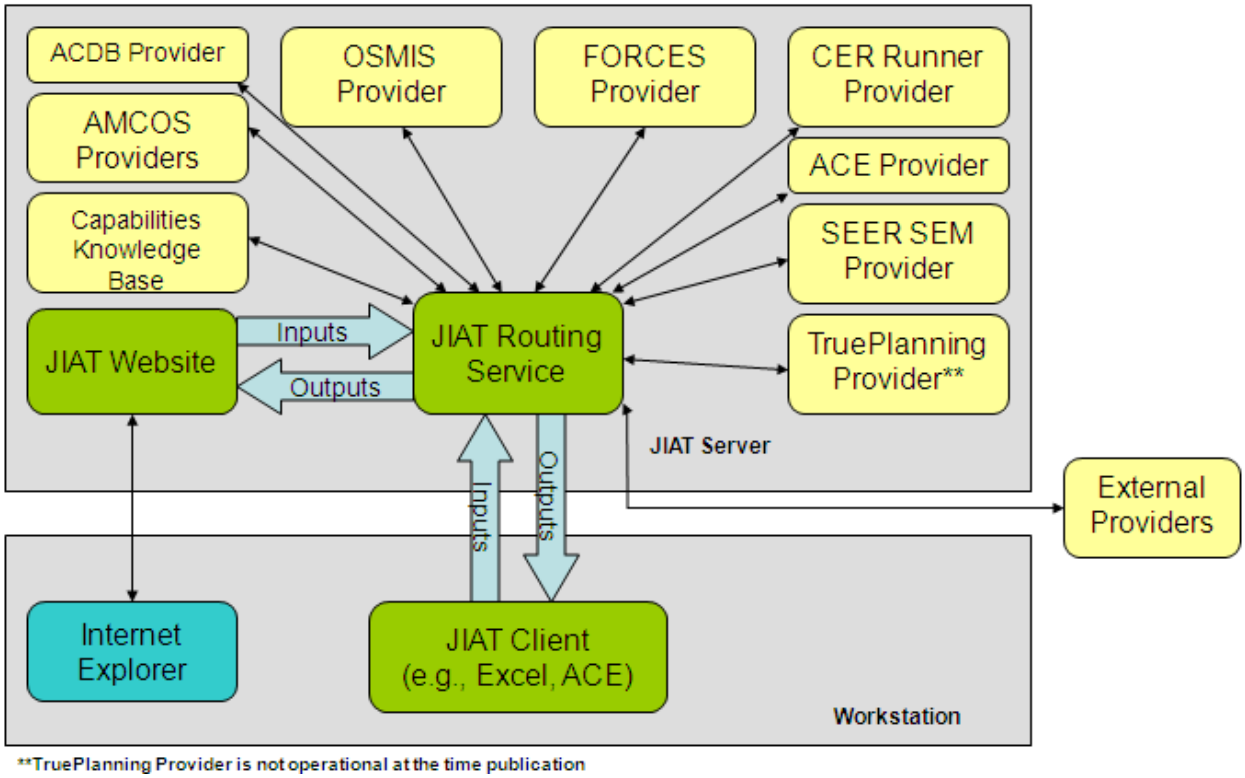

Figure 1: JIAT System Architecture

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A **JIAT Workstation** provides the means for the JIAT user to work with JIAT. The JIAT user can interact with JIAT in two ways: via the **JIAT Website** or a **JIAT Client**. The **JIAT Website** utilizes the Internet Explorer web browser to connect to the JIAT server. The **JIAT Client** is a desktop application which allows users to access JIAT via a desktop application. JIAT clients are currently available for Excel and ACE. The user can run a Model on the **JIAT Server** using either the **JIAT Website** or a **JIAT Client**.

The **JIAT Server** consists of three major pieces: the **JIAT Website**, the **JIAT Providers**, and the **JIAT Routing Service**. The **JIAT Website** Providers the interface for JIAT web users to interact with the Models available through JIAT. This allows users to access the Models without having the Providers and/or Models on the end-users workstation.

In addition to Providers hosted on the JIAT Server, JIAT has the capability to integrate Providers that exist on your own organization's web servers. This is referred to as an **External Provider**.

JIAT's Major Applications:

JIAT offers a variety of features to assist analysts with cost estimating and analysis efforts. The features focus on four major areas:

- **Initial Data Gathering**
- **Running Existing Models**
- **Building Integrated Estimating Models**
- **Sequencing Models Together**

JIAT can assist with initial data gathering. The first step in any new analysis task is to find relevant source data that can be used as the basis for cost estimating methodologies. Data gathering can include identifying analogous systems, locating analogous system data that can be used to develop factors and CERs, locating existing cost models for analogous systems, and pulling rates from standard tables. In this case, the JIAT Models are accessing a database.

JIAT can run applications with JIAT user-specified inputs to help analysts understand cost drivers and begin to study a systems trade space. JIAT can run inputs individually and can run a range of inputs in a batch mode. In this case, the JIAT Models provide access to applications.

JIAT can assist in building integrated estimating models. You can integrate models, CERs, and data hosted on the JIAT system to create new cost estimates in Excel or ACE. By using a modular approach to creating a model you can leverage existing information and methods.

JIAT provides a mechanism to help the user sequence models together. Model sequencing allows you to pass the results of one Model as inputs into another Model. A Model sequencing chain can be created to link several Models together.

JIAT Benefits:

JIAT offers several key benefits to the community.

- Web services technology provides a platform to bring multiple tools together in one workplace and be accessed securely (FOUO) from any desktop
- Establishes a standard Service-Oriented Architecture (SOA) framework to encourage the integration of other Services' cost estimating tools and databases
- Analyses for all phases of the program – development through sustainment
- Comprehensive analysis will reduce program risk by addressing hardware, software and programmatic requirements early in the program's lifecycle
- Formalized data transfer and code standards provide basis to add any tool or database to the JIAT network by any authorized entity
- Web services technology exploited to permit multiple tools and databases
- Analyst need only learn one interface to access tools and databases
- Consistent access to current, accurate data and tools will reduce program estimating risk

JIAT Providers:

The following tools are currently integrated into JIAT. Table 1 provides a summary of the type of information provided by each Provider.

- **ACDB** – Automated Cost Database, part of the ACEIT suite
- **ACE** – Automated Cost Estimator, part of the ACEIT suite
- **AMCOS** – Army Military-Civilian Cost System
- **CER Runner –** Internal Library of CERs
- **CKB** - Capabilities Knowledge Base
- **FORCES –** Force and Organizational Cost Estimating System
- **OSMIS –** Operating and Support Management Information System
- **SEER-SEM –** Software Estimating Planning and Project Control
- **TruePlanning Suite** – part of the PRICE system of tools (not yet included)

Table 1: Provider Tool Types

DATABASES	CERs	MODELS
CKB	CER Runner	ACE
ACDB		SEER-SEM
AMCOS		True Planning
FORCES		
OSMIS		

Automated Cost Data Base (ACDB):

ACDB is part of the Automated Cost Estimating Integrated Tools (ACEIT) suite. ACDB is a source of commodity based cost, technical, and performance data. Commodities include communications/electronics, rotary wing aircraft, missiles and munitions, wheeled and track vehicles. ACDB provides the unique capability to enter, search, and retrieve standardized cost, schedule, technical, and programmatic data with easy interface with the ACEIT Cost Analysis Statistic Package (COSTAT) or Excel. The ACDB system includes two components, the Database Developer Kit (DDK) and the Report Wizard. The Report Wizard allows analysts to access existing ACDB databases, review raw data reports, and extract data for analysis. The

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DDK is designed to allow a cost analyst with little or no database development training to build a cost/schedule/technical/programmatic database to support cost research. Additional ACDB information is available from the Office of the Deputy Assistant Secretary of the Army (Cost and Economics) website at http://www.asafm.army.mil/ODASA-CE.htm and the ACEIT website at www.aceit.com.

ACE:

ACEIT is a PC-based modeling tool which provides a standard framework for cost estimating and cost uncertainty/risk analysis tasks. ACEIT automates the storage, retrieval, and analysis; facilitates building cost models, cost uncertainty/risk analysis, budget time phasing and narrative documentation of the cost estimates. ACEIT is an integrated suite of tools (ACDB, COSTAT, ACE, POST, POSTDOC and LIBRARIAN). ACE automates all of the steps of the estimating process, including building a Cost Element Structure (CES), specifying estimating methods, performing learning, time phasing, inflation, and documentation. ACE also provides access to on-line databases and knowledge bases of cost estimating relationships (CERs), models, and source references. Some of ACEITs' new features include Plug-Ins for ACE, Excel, MS Project, PRICE S, H/HL, SEER H, SEER-SEM and NAFCOM.
ACEIT is widely used by Army organizations from the headquarters to small cost shops. Additionally the Air Force, Navy, OSD, other government agencies and support contractors use it. For more information see the Office of the Deputy Assistant Secretary of the Army (Cost and Economics) website at http://www.asafm.army.mil/ceac.htm, http://www.aceit.com/ or telephone ACEIT Sales at (281) 333-0240 or visit the ACEIT website at www.aceit.com.

AMCOS:

AMCOS is an automated tool that helps users estimate the costs associated with personnel and personnel requirements for different components, grades, and skills. AMCOS Lite performs quick estimates of military, civilian, and the private labor market. AMCOS is located on the OSMIS website http://www.osmisweb.com/.

CER Runner:

The CER Runner Provider was developed specifically for JIAT to run CERs stored in JIATs CER libraries. The CER Runner allows you to search for a CER, view its documentation, and then calculate the CER with your own input parameters. The CER runner is available thru the JIAT website and the Excel client.

Capabilities Knowledge Base - CKB:

The Capabilities Knowledge Base (CKB) is a relational database and toolset that enables a cost analyst to develop an early life cycle cost estimate when a system's capabilities (and perhaps little else) are known. Although this situation is typically found Pre-Milestone-A, the CKB is intended for use throughout the life cycle by providing a way to identify system analogies based upon capability set comparisons.

The CKB, consists of a relational database, a technical specification archive, and a basic data visualization/analysis toolset. The relational database houses cost, programmatic, schedule, contracting, and a considerable amount of related data often considered useful at a Pre-

Milestone-A point in a system life cycle. Each of the systems within the CKB is mapped to its capability set using the System Capability Architecture (SCA).

The current CKB houses over 18,000 data points, and several data visualization/analysis tools. CKB is hosted within the Assistant Secretary of the Army for Financial Management's Cost and Performance Portal (CPP) within Army Knowledge Online (AKO).

FORCES:

The Force and Organization Cost Estimating System (FORCES) is a suite of models and a database consisting of four components: The FORCES Cost Model (FCM), The Army Cost and Factors Handbook (CFH), the Army Contingency Operations Cost Model (ACM) and the End Strength Cost Model (ESCM). Each model component of FORCES is a complete package consisting of a PC-based, menu driven program with all the necessary database files. FORCES is available on the web for use by organizations within the Department of the Army. JIAT contains the Cost Factors Handbook information from FORCES.

- The CFH is a searchable, web-based database containing the data used by the FCM (along with other commonly used factors) in a form quickly accessible by the analyst.

The CFH is used by Commanders, staff officers, and analysts to obtain detailed information on the various costs associated with unit operations.

OSMIS:

The Operating and Support Management Information System (OSMIS) is the core of the Army Visibility and Management of Operating and Support Costs (VAMOSC) program. OSMIS tracks operating and support information for over one thousand major Army weapon/materiel systems for the Office of the Deputy Assistant Secretary of the Army for Cost and Economics (DASA-CE). OSMIS-tracked systems include combat vehicles, tactical vehicles, artillery systems, aircraft, electronic systems, and miscellaneous engineering systems. DASA-CE generates and fields a wide variety of requests for OSMIS data to support analyses tasks throughout the defense community.

SEER-SEM:

SEER-SEM estimates the software development and maintenance effort, cost, schedule, staffing, reliability, and risk. There are several basic drivers behind SEER-SEM’s estimating engine. These driver values are established by your choice of knowledge bases and parameter settings. Parameter categories include those for size and other, more qualitative factors. Qualitative inputs rate programmer and analyst capabilities and experience, the use of automated tools, anticipated volatility, etc. Other SEER cost estimation tools include SEER-SSM (Software Size Estimation), SEER-H (Hardware Estimation, Planning, and Project Control), SEER-IC (Integrated Circuit Cost and Yield Analysis) and SEER-DFM, Cost Design for Parts, Process and Assembly. More information regarding SEER can be obtained at http://www.galorath.com or telephone (310) 414-3222.

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TruePlanning Suite:

The PRICE TruePlanning Suite is the umbrella for all of the PRICE systems' toolsets. True H and PRICE H (Hardware Acquisition and Development) estimates costs, resources and schedules for hardware projects. True S (Software Acquisition and Development) predicts costs, resources, and schedules for all types and sizes of software projects. True IT (Information Technology Project Modeling and Management) provides a framework for devising and executing and enterprise IT strategy that can include one or many projects. The PRICE suite of cost estimating models also includes True COCOMO, an implementation of USC's COCOMO II, for estimating software engineering requirements analysis, design, construction, and verification at the software configuration item level. More information regarding the PRICE TruePlanning Suite can be obtained at http://www.pricesystems.com/ or telephone (703) 740-0080.

JIAT Software Requirements:

In order to run the JIAT software the following software is required.

- **JIAT Workstation requirements**

For the JIAT end-users workstation to access the JIAT website:

  - Microsoft Windows XP/Vista
  - Microsoft Internet Explorer 6.0/7.0

For the JIAT end-users workstation to access the JIAT Client (Using the JIAT Client to access JIAT is optional):

  - Microsoft .NET Framework 3.5
  - Excel Client via JIAT Excel Add-in: Microsoft Excel 2003/2007
  - ACE Client via JIAT ACE Plug-in: ACEIT 7.1a

- **External Server Hosting a Provider**

For an external server to host a JIAT Provider:

  - Microsoft Windows Server 2003
  - Microsoft .NET Framework 3.5
  - Microsoft Internet Information Server (IIS) 6.0 (web server software)

- **JIAT Development Machine**

For the development machine used to create a JIAT Provider

  - Microsoft Windows XP/Vista
  - Microsoft .NET Framework 3.5
  - Microsoft Visual Studio 2008 using VB.NET, C# or other .NET language
  - JIAT Software Development Kit (SDK). Includes required JIAT Standard Interface component

JIAT Security:

JIAT is a secure application that utilizes SSL (Secure Socket Layer) and is hosted within a .mil ADCF portal. In order to access JIAT the end-user must provide a CAC and PIN. In addition, the end-user must also have an already approved JIAT website account associated with their CAC.

Obtaining a JIAT Account

In order to use the JIAT applications, the end-user must first establish a user account. This section describes how to obtain a JIAT user account.

- Visit the Army Workload and Performance System site at https://www.awps.army.mil/
- Select your CAC from the list of digital certificates as show in Figure 2.

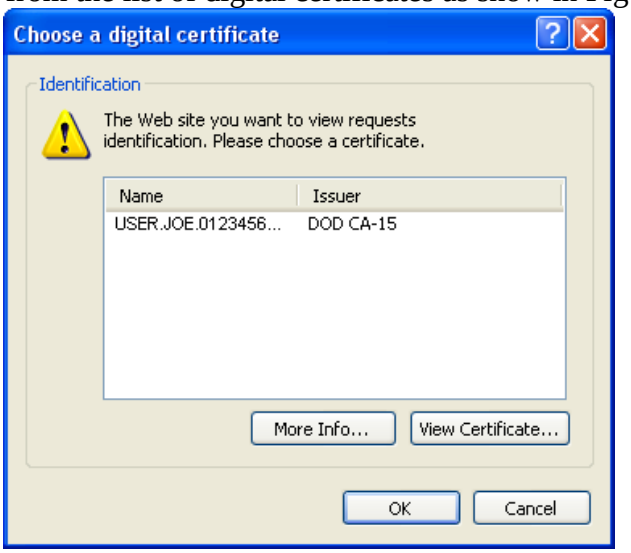

Figure 2: Choose a Digital Certificate

- Enter your pin (see Figure 3).

Figure 3: Enter Pin

- Click **Accept** to consent to the terms and conditions as indicated in Figure 4.

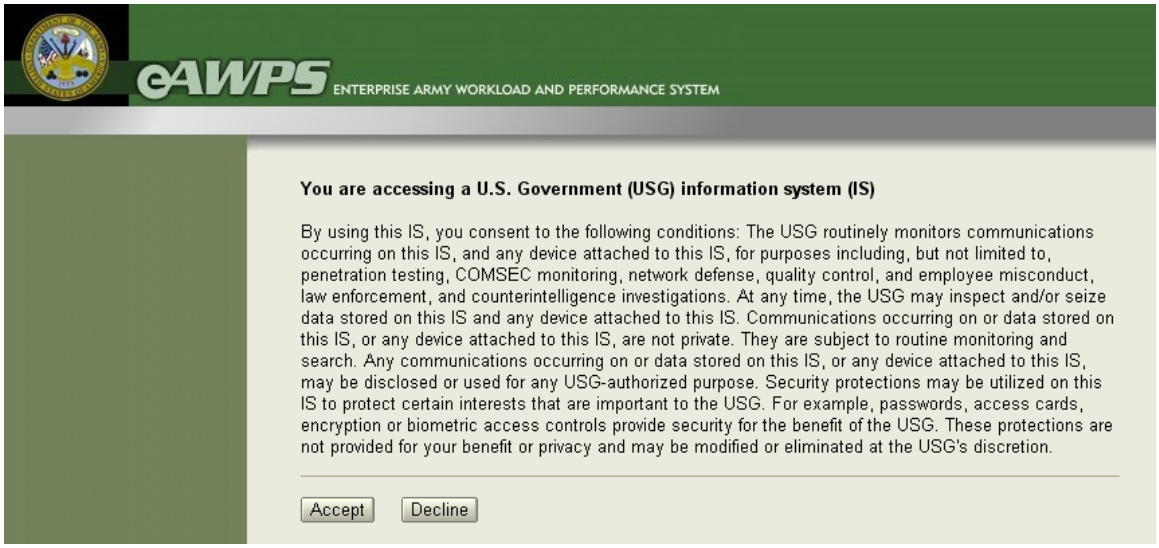

Figure 4: Terms and Conditions Acceptance

- Click New User Request on the left side of the Welcome page as shown with the arrow in Figure 5.

Figure 5: New User Request Step 1

- Fill out the New User Request form. Check "JIAT - Joint Integrated Analysis Tool" under the "Applications you are requesting access to" section. Click Submit Request when finished completing the form (see Figure 6).

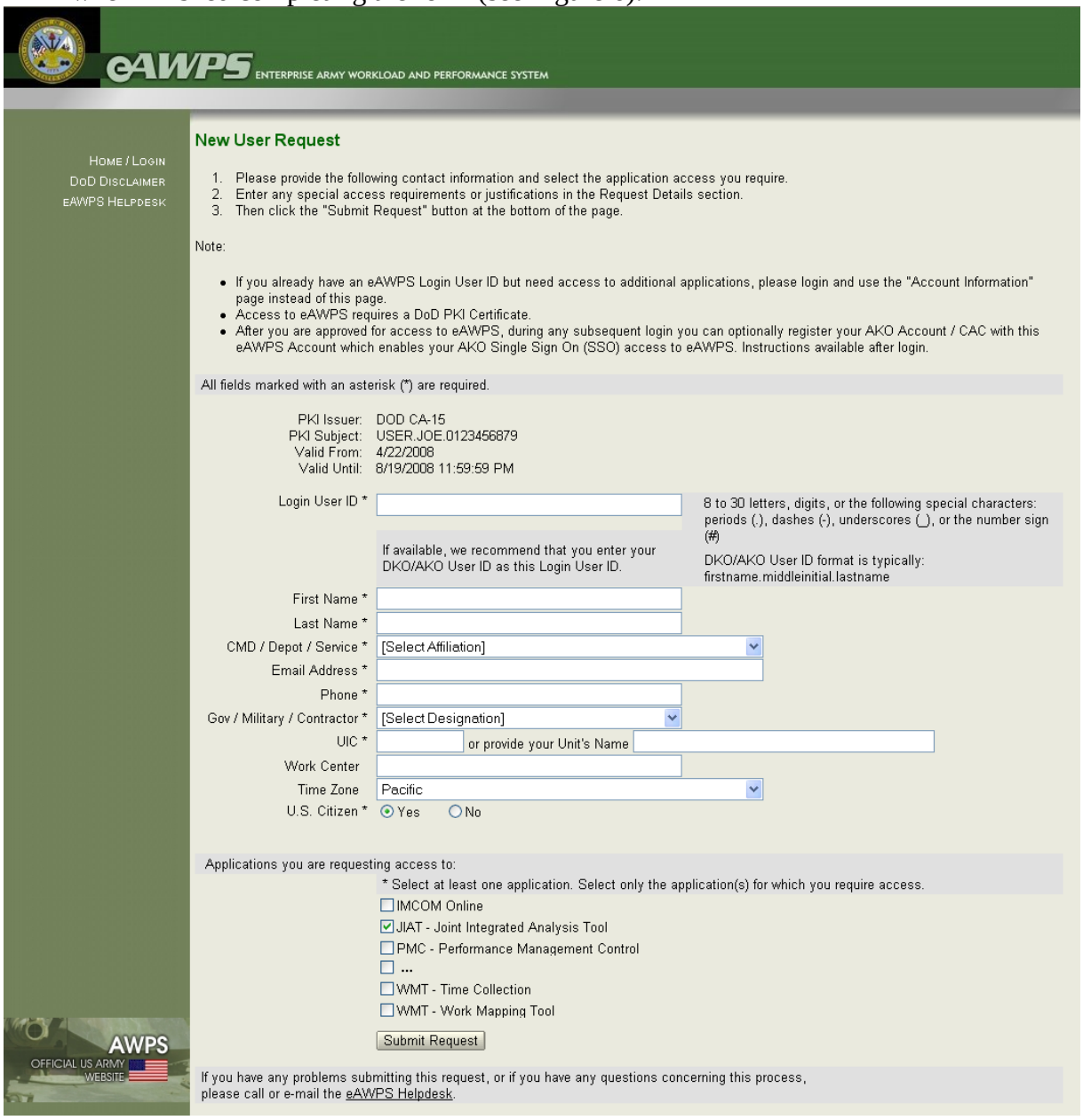

Figure 6: New User Request Step 2

- You will receive an e-mail notification when your account has been approved that contains a temporary password. Upon logging in for the first time, you will be prompted to change your password.

Logging Onto the JIAT Website:

To access the JIAT website use the following portal https://www.awps.army.mil/. Be prepared to insert you CAC and enter your PIN. Once the login information is complete you will be routed to the JIAT home page. Figure 7 shows the JIAT Home Page.

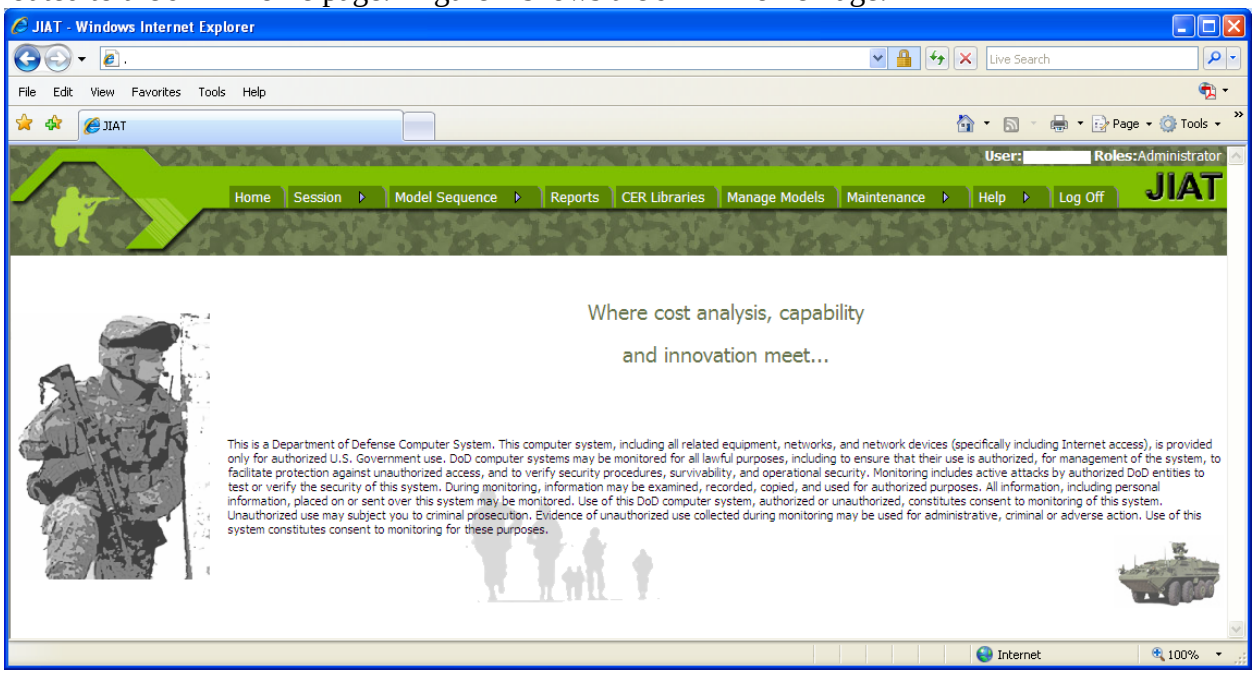

Figure 7: JIAT Home Page

JIAT Main Menu:

The main menu consists of up to nine submenus (administrators have all the menu options). The JIAT features are accessed thru the following submenus:

- **Home** – Introduction Page (shown in Figure 7)
- **Session** – Create sessions to run models, CERs, and database queries
- **Model Sequence** – Build and run a Model sequence
- **Reports –** View Reports
- **CER Libraries –** View and add CERs to JIAT Libraries
- **Manage Models –** Add new Models to JIAT
- **Maintenance –** Manage Providers and Users
- **Help** – View user guide
- **Log off** – Log off system

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USING JIAT TO GATHER INITIAL ESTIMATING DATA

New studies or analysis often require the analyst to look at what they need to estimate and embark on a safari to search for and gather relevant source data. Typical safaris include tracking down several items from identifying analogous systems to looking for existing cost models to gathering related O&S data. In this section we explore using the JIAT website to help gather estimating information to use in a cost estimate.

We will cover the following Chapters in this section of the course:

- CHAPTER 2 – GETTING STARTED WITH DATA GATHERING
- CHAPTER 3 – LOOKING FOR ANALOGOUS SYSTEM DATA WITH AN ACDB PROVIDER
- CHAPTER 4 – COLLECTING STANDARD LABOR RATES WITH THE AMCOS PROVIDER
- CHAPTER 5 – GATHERING RELATED O&S DATA WITH THE OSMIS PROVIDER
- CHAPTER 6 – COLLECTING ANALOGOUS SYSTEM FORCES DATA

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CHAPTER 2 – GETTING STARTED WITH DATA GATHERING

Gathering data is one of the first steps of performing a cost, engineering, and capability/performance analysis. The focus of this effort is to gather relevant source information that can be used as the basis for setting analysis ground rules and assumptions, for developing cost estimating relationships, and determining estimate methods. The process typically is very time consuming because it requires seeking out and going to a variety of locations to gather the data. One of the main focuses of JIAT is to **bring the information to the analyst rather than the analyst to the information**. In this section we will begin to explore how to use JIAT to assist with data gathering.

Initial Data Gathering:

New studies and analysis requires data gathering. There are three main types of data that analysts use to develop estimates, raw source data, CERs and existing models. Raw source data is used directly in an estimate or can be used as the basis for developing a CER or method. Existing models and CERs can be leveraged to assist with estimating a portion of an effort. Using existing models and CERs has the advantage of already having been reviewed/approved.

Looking For Raw Source Data:

Raw source data is utilized in cost research which is the practice of collecting data and analyzing it to study for trends. We can collect historical cost data, effort data (such as man hours required for a task), and technical characteristics (like system weight or shaft horse power) and analyze it. The raw data itself or the result of the cost research can be used in a larger analysis or estimate. Specifically JIAT can help you do the following with raw source data:

- Identify analogous systems
- Locate analogous system cost, schedule, or technical data for various commodities
- Collect standard/approved labor rates for military and civilian personal
- Gather related O&S data
- Obtain information on the various costs associated with unit operations

Looking For Existing CERs and Models:

Given the limited resources available to develop estimates and analysis utilizing existing CERs and models can be a valuable asset. Using this information can give you a jump start and can help you avoid wasting time on research that someone else already completed. In addition existing models and CERs can help you fill in gap areas where no raw source data is available. This can be particularly helpful during the early stages of a program. JIAT has several features to help you look for and study existing models and CERs. Specifically JIAT can help you:

- Look for and study existing CERs
- Look for and run existing hardware and software cost models
- Look for and run existing relevant engineering models

Gathering Initial Data from a Single Location:

Until now the data gathering process required going to several locations to locate cost, schedule, and technical data and models. For example a typical analysis may have included the following:

- Go to CKB (Capabilities Knowledge Base) to help indentify analogous systems
- Go to the AMCOS website to get the current military and civilian pay rates
- Request, obtain, and load a particular ACDB database to gather analogous system cost, schedule, and technical data
- Go to the OSMIS website to gather operation and maintenance data on analogous systems
- Search for CER studies in a document library (virtual or in the filing cabinet down the hall)
- Request, obtain, and load SEER-SEM, True Planning or ACE models (requires that each software be located on your machine)

With JIAT you eliminate the need for the analyst to go to each of these source locations separately. With JIAT you can log into one website https://www.awps.army.mil/ and have direct access to the the data in these databases via JIAT Providers and JIAT Models. Furthermore, the this can be achieved without having to be installed locally on your system.

JIAT Data Gathering Providers:

JIAT Providers can help with both looking for raw data and existing CERs and models. Table 2 provides a list of which actions would be associated with the various JIAT Providers.

Table 2: JIAT Data Gathering Providers

ACTION	TOOL	JIAT PROVIDER
Indentifying analogous systems	Capabilities Knowledge Base	ODASA-CE Databases Provider
Locate analogous system cost, schedule, or technical data for various commodities	Various ACDB Databases	ACDB Providers (each database is a separate Provider)
Collect standard/approved labor rates for military and civilian personal	AMCOS	AMCOS Provider
Gather related O&S data	OSMIS	OSMIS Provider
Obtain information on the various costs associated with unit operations	FCH portion of FORCES	ODASA-CE Databases Provider
Look for and run existing hardware and software cost models	ACE	ACE Session Provider
	TruePlanning**	Price True Planning Provider
	SEER-SEM	SEER-SEM Provider
Look for and run existing relevant engineering models	ACE	ACE Session Provider
	TruePlanning**	Price True Planning Provider
	SEER-SEM	SEER-SEM Provider
Look for and study existing CERs	Various Locations	CER Runner Provider

** At the time of this publication TruePlanning was not fully operational.

Creating a JIAT Session:

A JIAT session is the term for any instance of running a JIAT Model. This provides a workspace to run an analysis thru the JIAT website and be able to store and retrieve the analysis again later. To create a new JIAT session go to the Session menu and select **Create New Session** as shown in Figure 8. Then enter a session name and description (see Figure 9). It is recommended that you use a descriptive session name to help you relocate this work again. The description can be viewed when opening or managing your JIAT sessions. After entering a name and description press the **Next** button on the bottom right of the page.

Figure 8: Creating a New Session JIAT

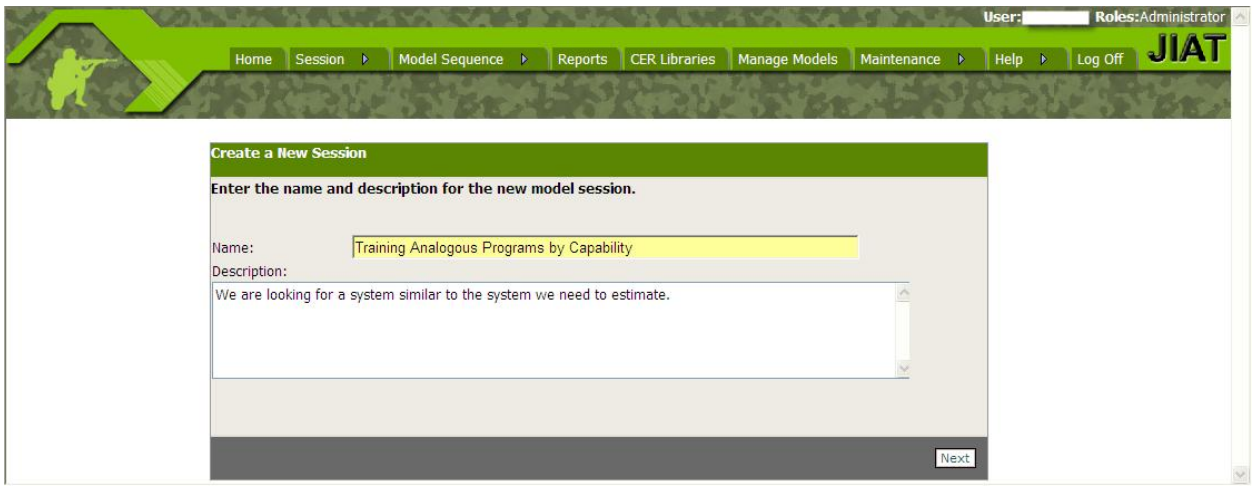


Figure 9: Entering a New Session Name and Description

The next step to creating a JIAT session is to select a JIAT Provider from the Create a New Session dialog as shown in Figure 10. You can select a single Provider or search across multiple Providers by specifying search criteria.

In general, when searching for raw data you select the desired Provider and proceed by selecting next. When you look for existing models and CERs enter search criteria to help locate relevant items.

Figure 10 shows all the Providers available at the time this training guide was published. Additional Providers will be added as JIAT evolves.

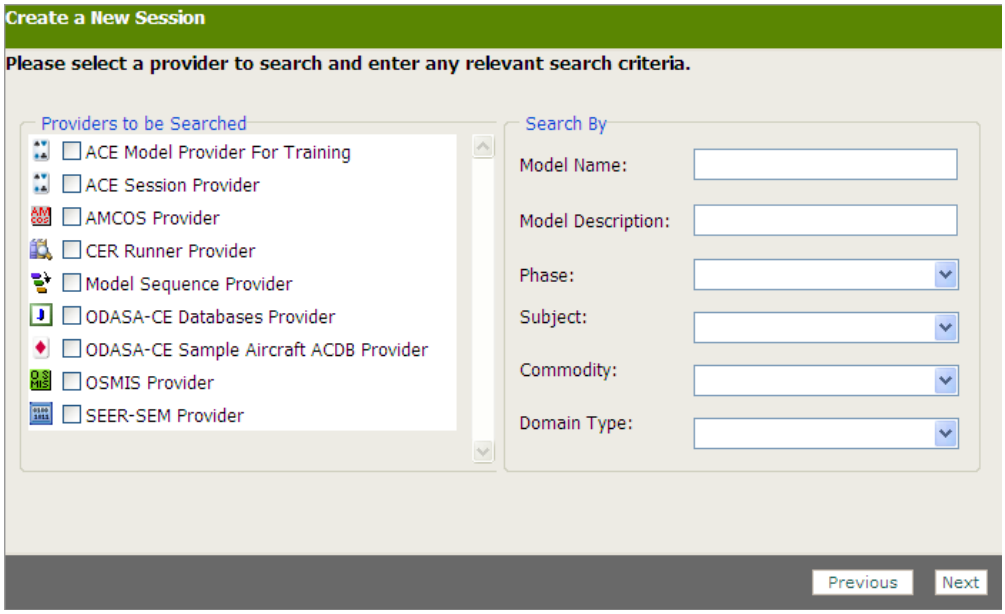


Figure 10: Select Providers and Enter Search Criteria

*Note: In general each analysis with the JIAT website begins by creating a New JIAT Session using the **Session>Create New Session** menu item.*

Identifying Analogous Systems with CKB in JIAT:

Identifying potential analogous systems is one of the first steps in a new estimate or analysis task. The Army systems listed in CKB are available by capabilities, technical characteristics, and program specifics. You can search the system database using the ODASA-CE Database Provider. To begin searching the database check the ODASA-CE Databases Provider from the Providers list in the **Create a New Session** dialog as illustrated in Figure 11. With the item checked click the Next button.

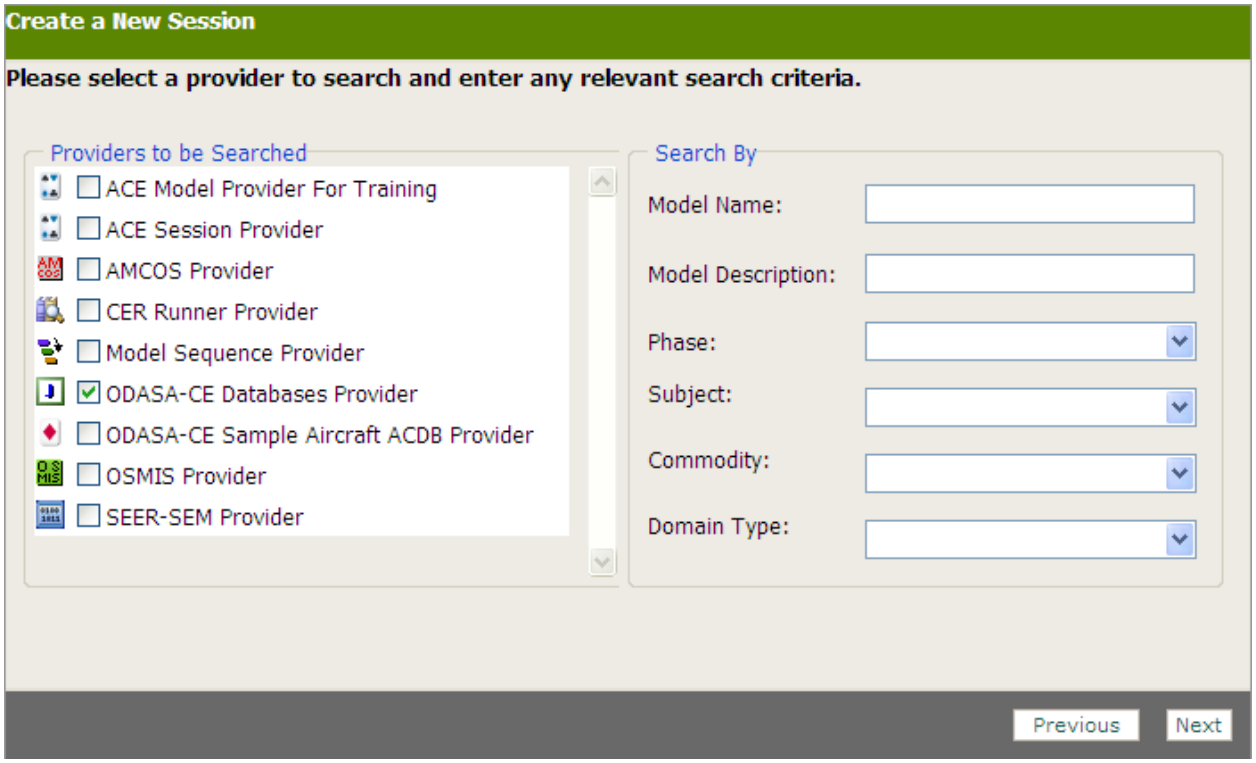


Figure 11: Selecting the ODASA-CE Databases Provider

CKB offers four search options to identify an analogous system:

- Program by Capability – obtain programs based on capabilities to help indentify analogous systems
- Capabilities List by PNO – view a list of all the capabilities of a system to help confirm that the system is analogous
- Programmatic Data by PNO – view programmatic data like major phase cost and duration for a potential analogous system
- Technical parameters by PNO – view the technical characteristics for a potential analogous system

PNO is an official DAMIR product number which is specified by a three digit code.

The ODASA-CE Database Provider lists all the ODASA-CE databases stored in JIAT. This includes the databases associated with CKB and those from the Cost Factors Handbook from FORCES. The databases are shown in Figure 12. In this section we talk about the CKB options in a later Chapter we explore the FORCES options.

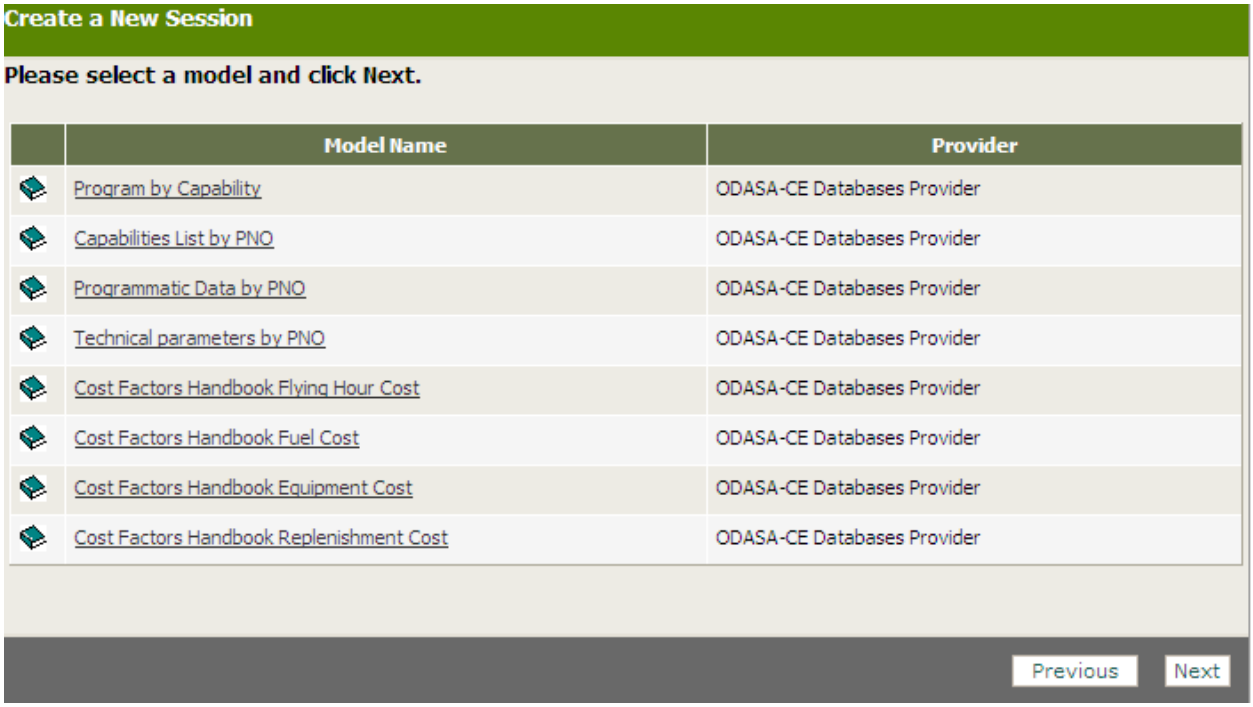


Figure 12: CKB and FORCEs Data Available in JIAT

To perform a CKB search select from one of the first four listings in Figure 12 and click the Next button. You will then see the dialog shown in Figure 13. For the CKB databases the only Model option is a Data Query, to proceed simply click the Finish button.

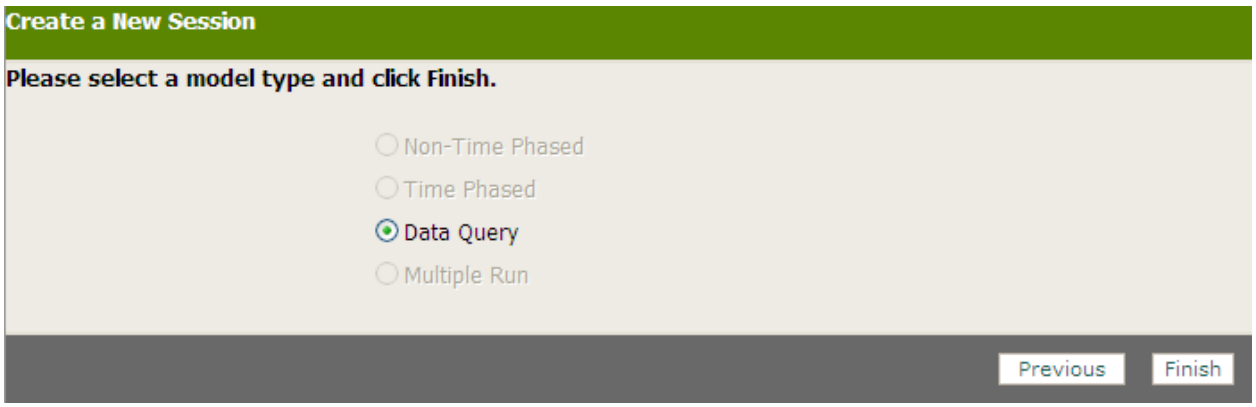


Figure 13: CKB Model Type Selection

Running a Data Query in JIAT:

A common interface is used of all data queries in JIAT. This allows you to learn how to operate one interface and interact with several different databases like CKB, AMCOS, ACDB, OSMIS, and FORCES. Figure 14 shows an example of the interface.

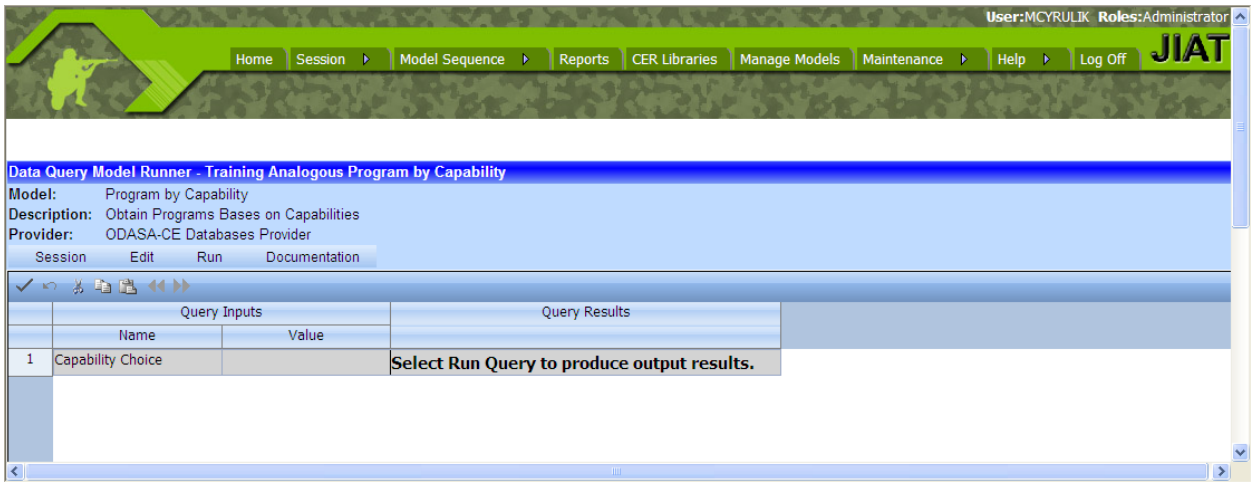


Figure 14: Common Data Query Interface

The interface consists of four main sections, the Model Title, the Operation buttons, the Query Inputs and the Query Results.

- Model Title – list the JIAT session name, the Model name, and the JIAT Provider type
- Operation buttons – buttons to run the interface; save the session, edit or copy the data to another location, run the query, and enter documentation
- Query Inputs – set the query choice options, this information varies for each database
- Query Results – view the results of the query

To run a query select the Run>Query button and enter input choices. The information in the choice lists is specific to the particular database.

Running the Program by Capability Data Query:

Figure 14 shows the Program by Capability data query associated with CKB. To run a query select the **Run>Query** button. This brings up the **Data Query Inputs** dialog (see Figure 15). You must enter a Capability Choice by pressing the button with the three dots on the right (circled in Figure 15).

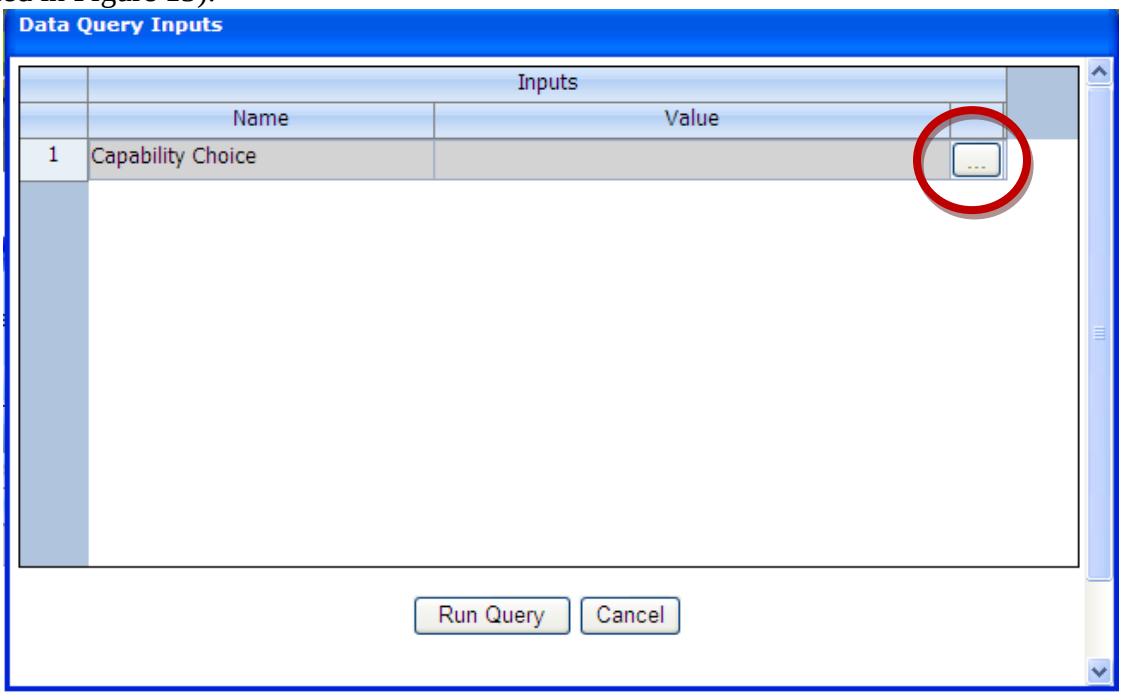


Figure 15: Data Query Inputs Dialog

Check all the capabilities that apply to the system you are trying to estimate. In Figure 16 we selected "Air" and "Manned" to find all Manned Air systems in the database. Select OK to set the inputs.

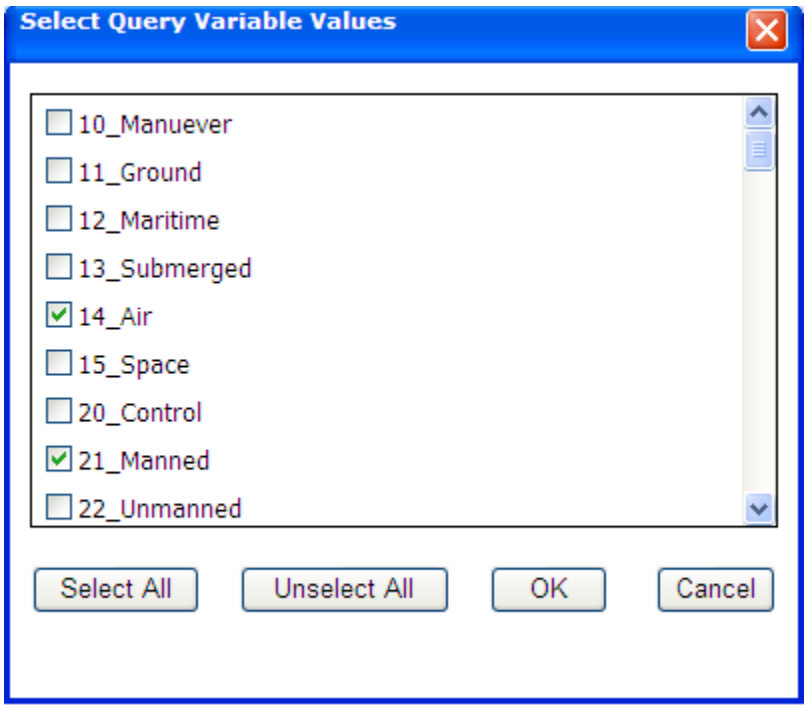


Figure 16: CKB capability selections

JIAT shows the Inputs Value selected in the **Data Query Inputs** dialog and you can press **Run Query** to execute the query (see Figure 17).

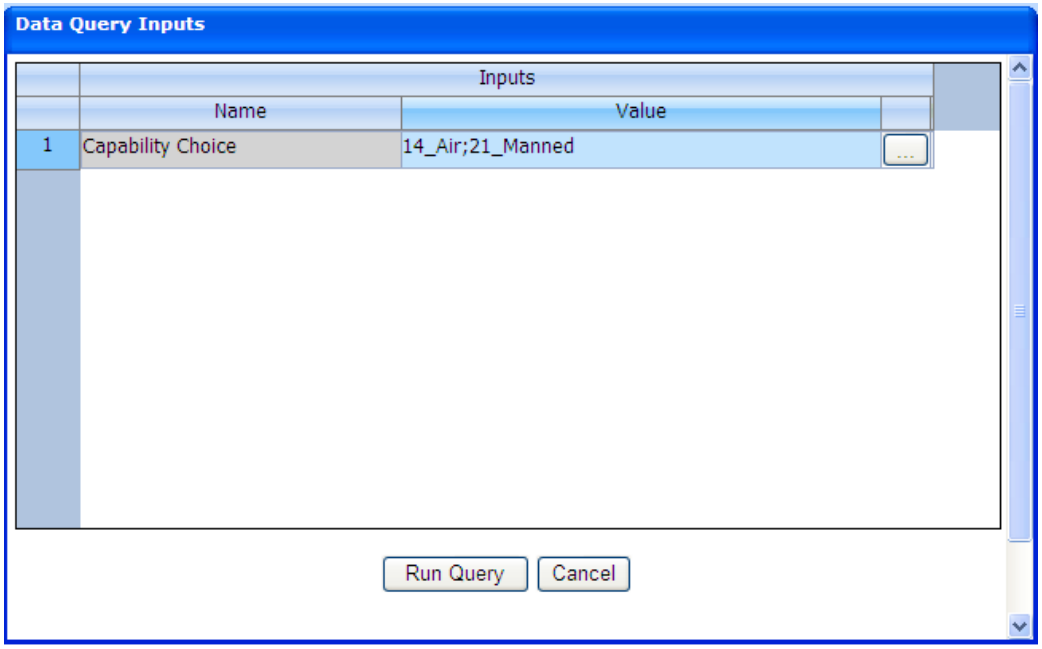


Figure 17: CKB capability inputs

Figure 18 shows the results of the query. From this we can learn that there are 9 manned air systems in the CKB. Along with each Program Name we can see their PNO Codes.

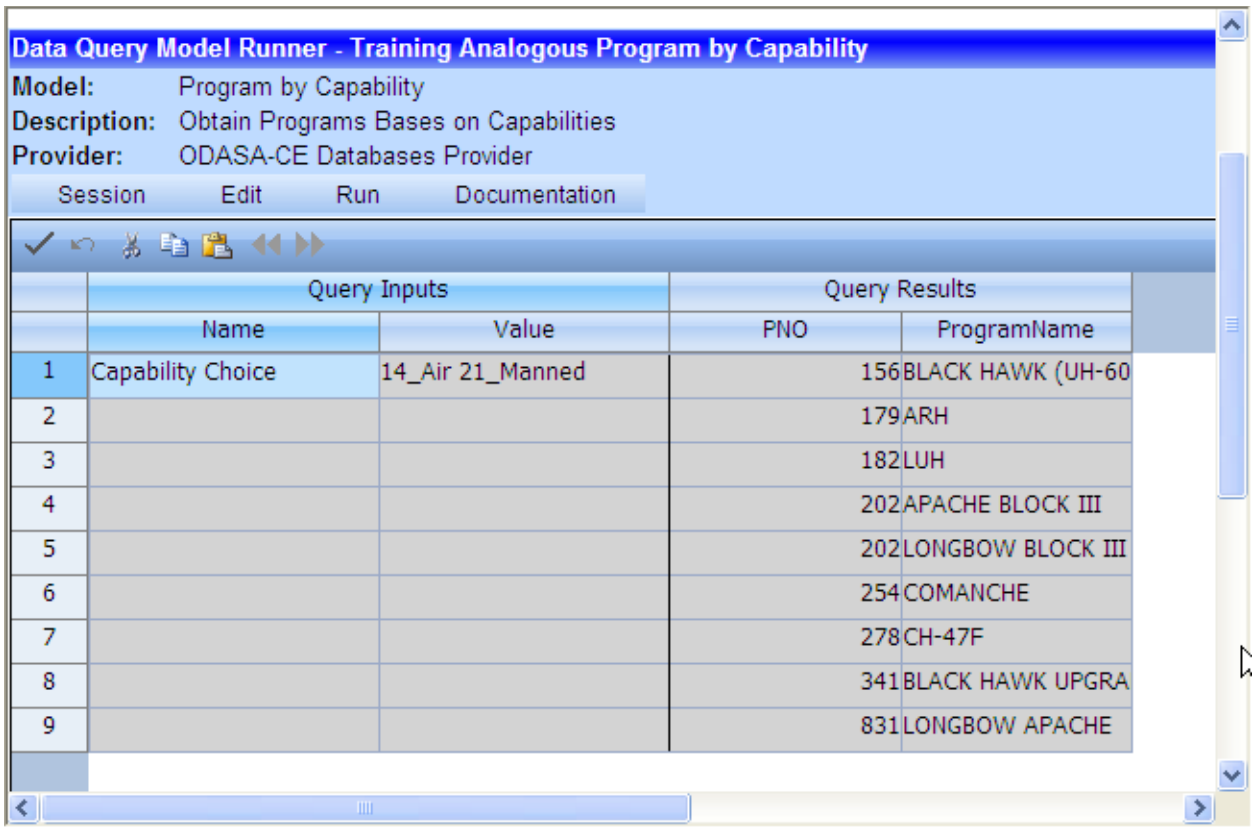


Figure 18: CKB Program by Capability Results

Saving a Data Query Session:

Data Query Sessions can be saved to your JIAT account so that you can access it again later to continue your work. To save the input values and the results of the query select **Session>Save or Save as.** Figure 19 shows how to save a session. You can open a saved query with the Session Open Manage Sessions items discussed later in this Chapter.

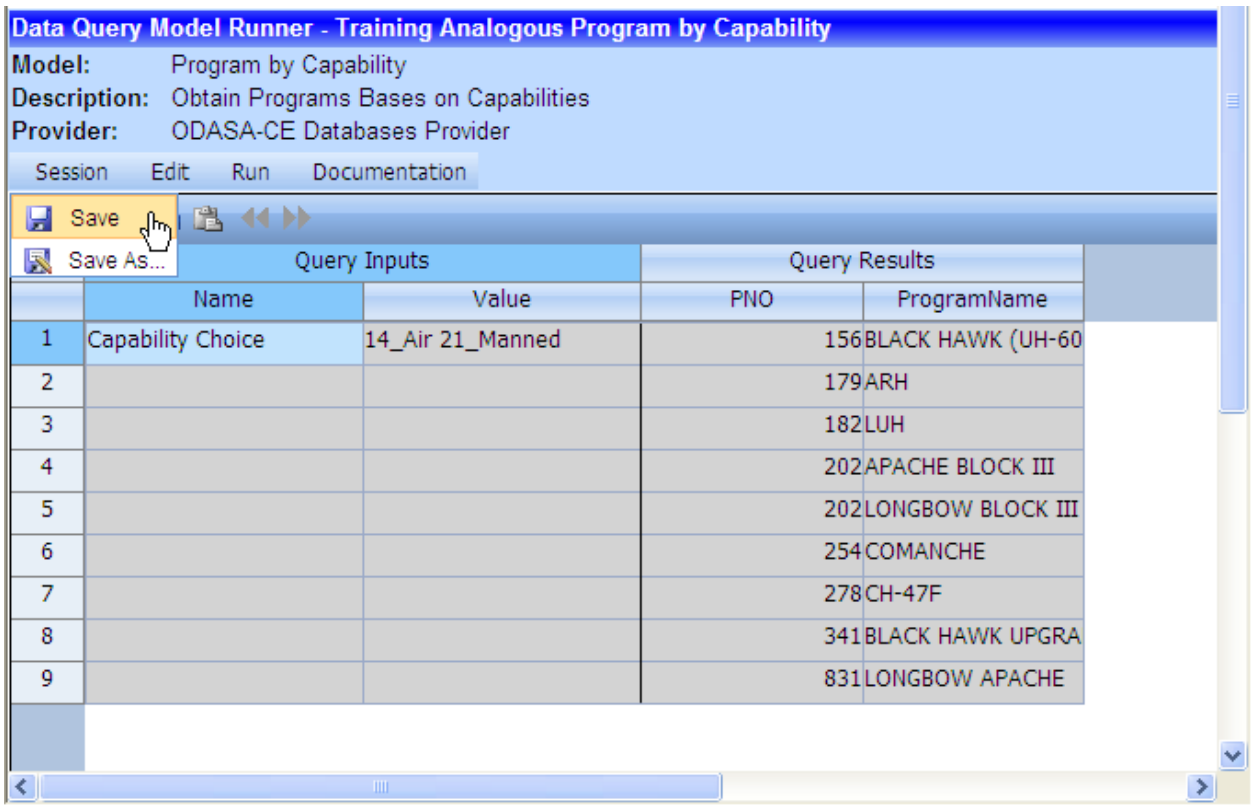


Figure 19: Saving a Data Query

Running the Capabilities List by PNO Data Query:

The second CKB data query is Capabilities List by PNO. Create a new session and select Capabilities List by PNO from the ODASA-CE Database Provider list (see Figure 12). Notice that the common data query Model Runner is shown in Figure 20 but now the Model reflects the Capabilities List by PNO and the Query Inputs are different than that with Program by Capability. The query input value is automatically set to the first value in the input list.

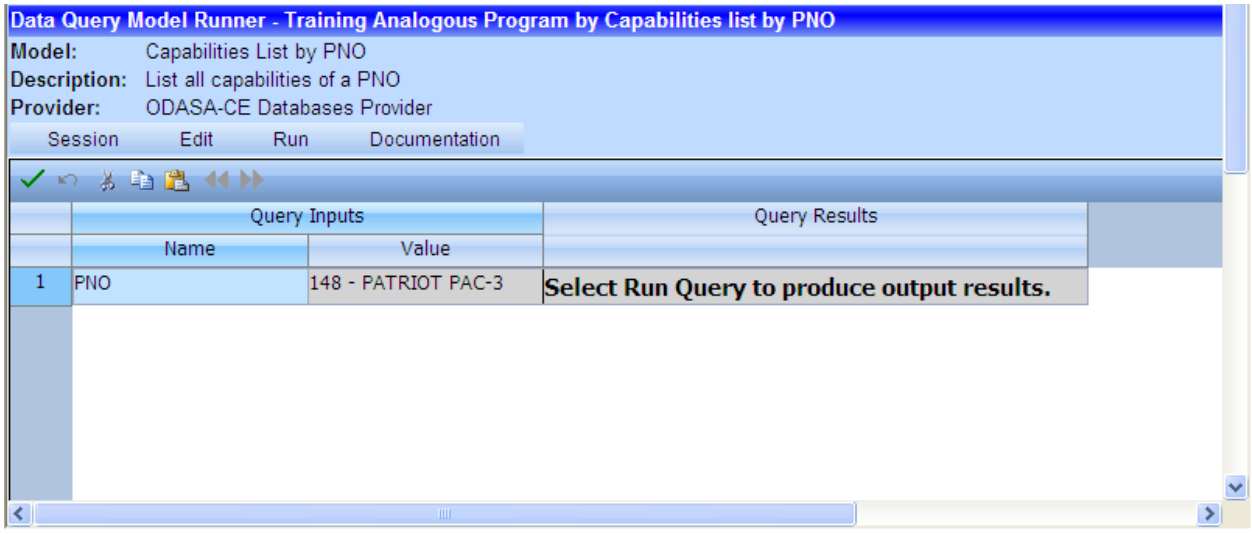


Figure 20: CKB Capabilities List by PNO

For this query select a PNO from the PNO list and view the systems capabilities. To run the Query select **Run>Query** and use the drop down list to select a system by PNO. In Figure 21 we selected PNO 202 Longbow Block III.

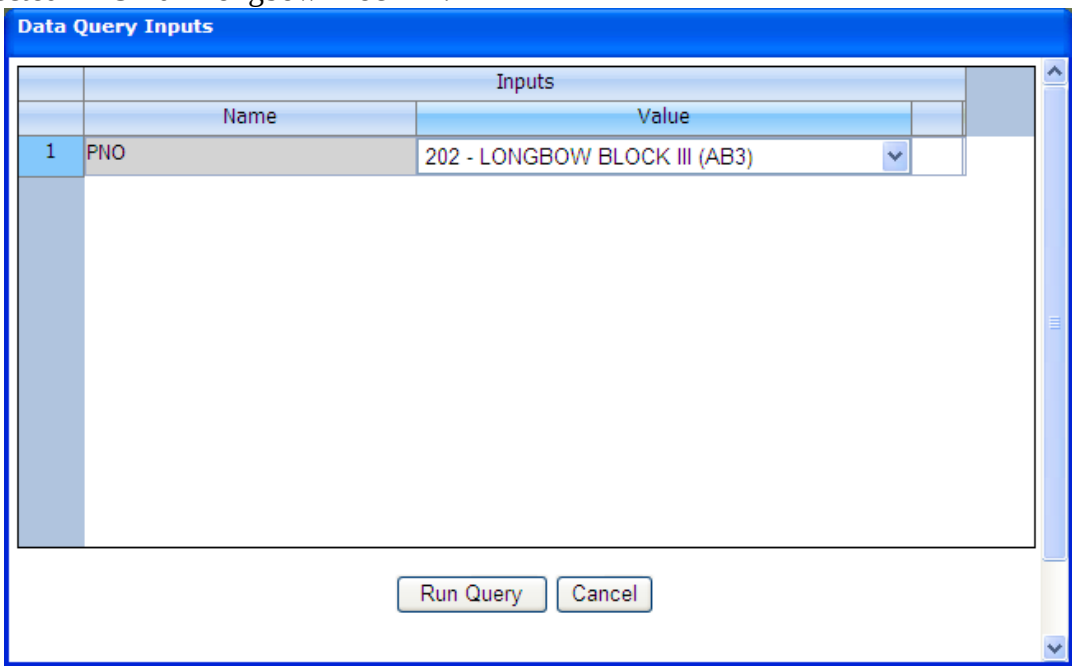


Figure 21: CKB Capabilities List by PNO Query Inputs

JIAT searches the CKB databases and returns the capabilities of the Longbow Block III system. Figure 22 shows the results of the query. Don't forget to save the session so that you can value the query again later.

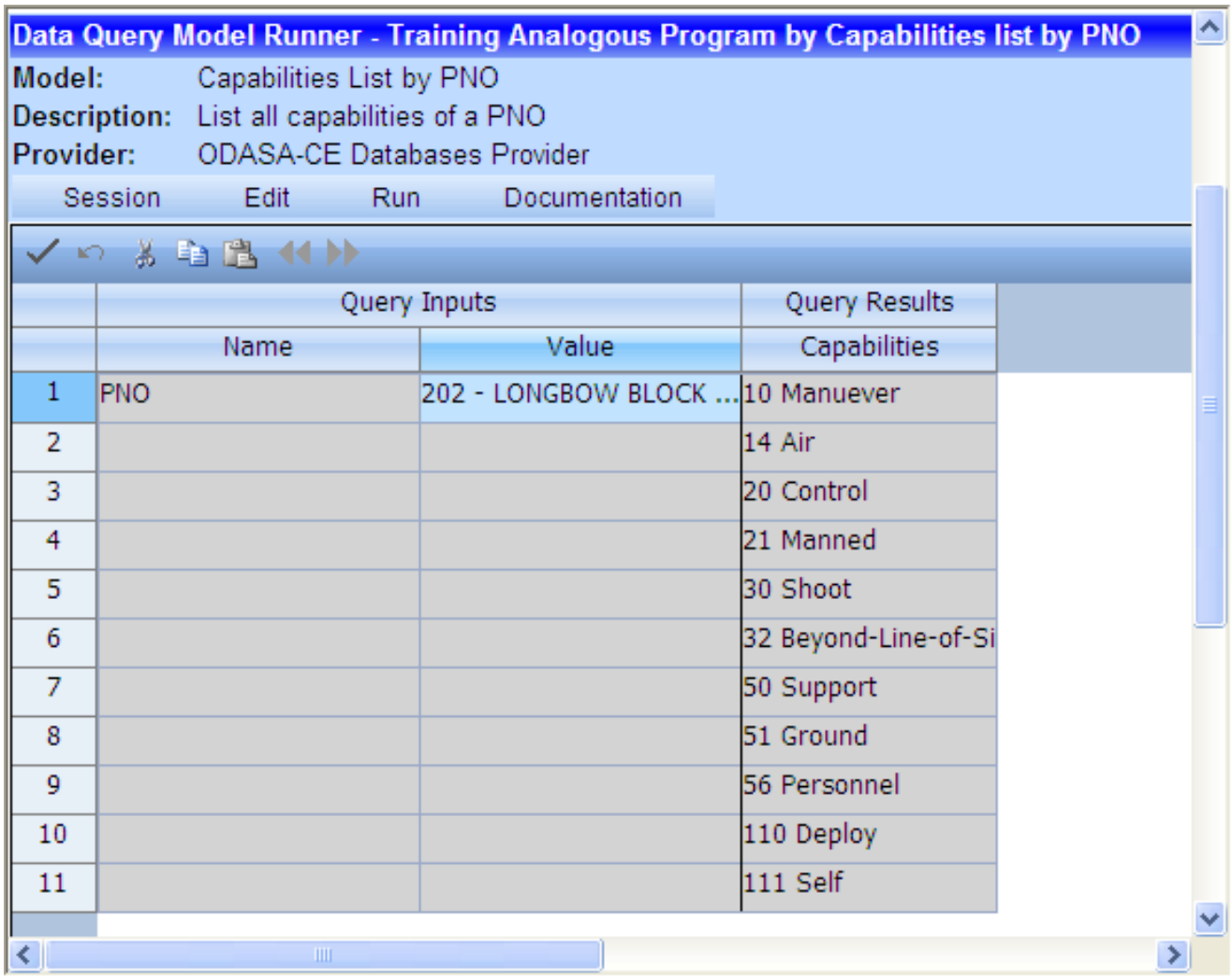


Figure 22: CKB Capabilities List by PNO Query Results

Running the Programmatic Data by PNO Data Query:

The third CKB data query is Programmatic Data by PNO. Create a new session and select Programmatic Data by PNO from the ODASA-CE Database Provider list (see Figure 12). Notice that the common data query Model Runner is shown as in Figure 23 but now the database reflects the Programmatic Data by PNO. As it turns out the Query Inputs are similar to those with the Program by Capability.

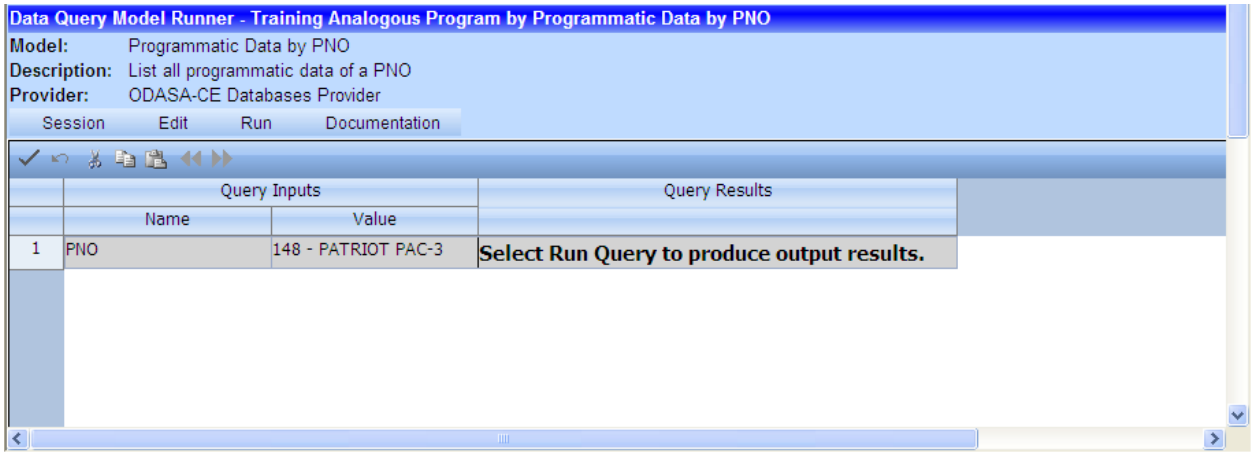


Figure 23: CKB Programmatic Data by PNO

For this query select a PNO from the PNO list and view the systems programmatics, the selections are similar to the Capabilities List by PNO. To run the Query select **Run>Query** and use the drop down list to select a system by PNO. Again we selected PNO 202 Longbow Block III for our example. JIAT searches the CKB databases and returns the programmatic data for the Longbow Block III system. Figure 24 shows the results of the query which shows items like RDTE, Procurement, MILCON, and O&M Costs, plus program durations. Again, makes sure to save the session to save the query.

,

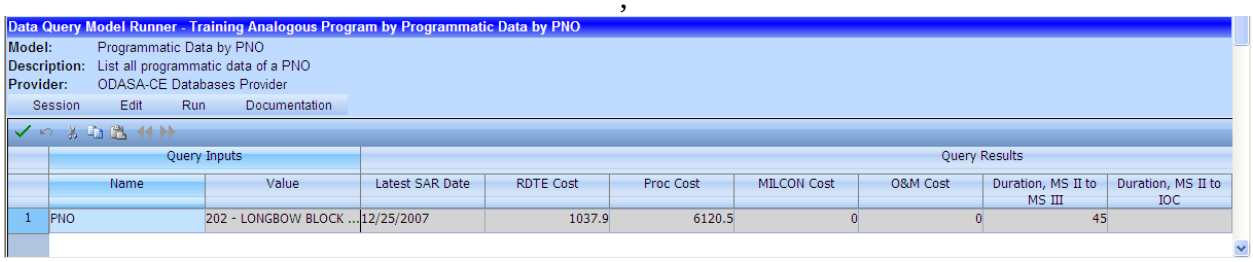


Figure 24: CKB Programmatic Data by PNO Query Results

Running the Technical Parameters by PNO Data Query:

The last CKB data query is Technical Parameters by PNO. Create a new session and select Technical Parameters by PNO from the ODASA-CE Database Provider list (see Figure 12). Figure 25 shows the Data Query Model runner for this option.

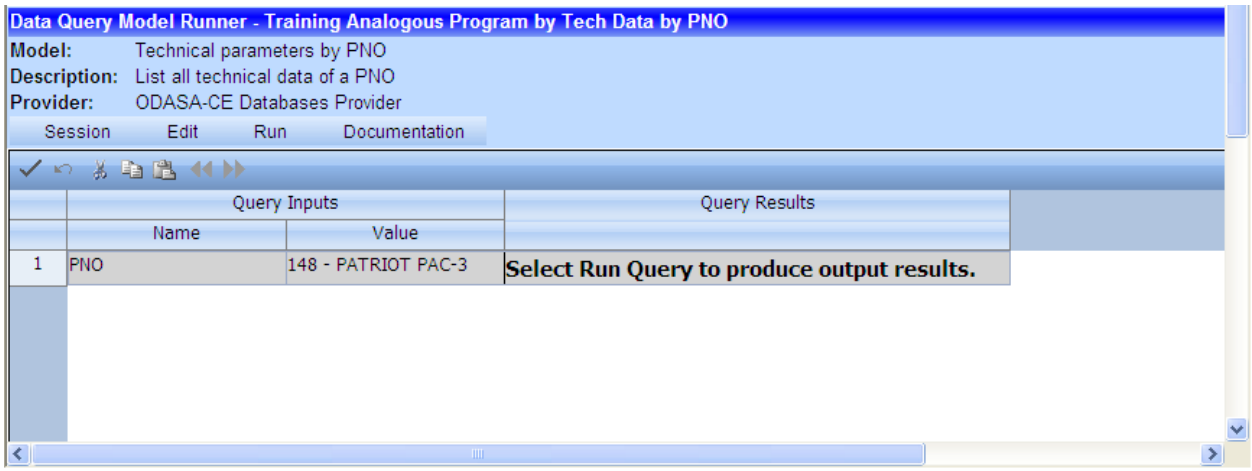


Figure 25: CKB Technical Parameters by PNO

For this query select a PNO from the PNO list and view the systems technical parameters, the selections are similar to the capabilities and programmatic lists by PNO. To run the query select **Run>Query** and use the drop down list to select a system by PNO. Again we selected PNO 202 Longbow Block III. JIAT searches the CKB databases and returns the technical data of the Longbow Block III system. Figure 26 shows the results of the query which shows items like Cruise Speed, Climb Rate, and Length. You can save the session to look at it again later.

,

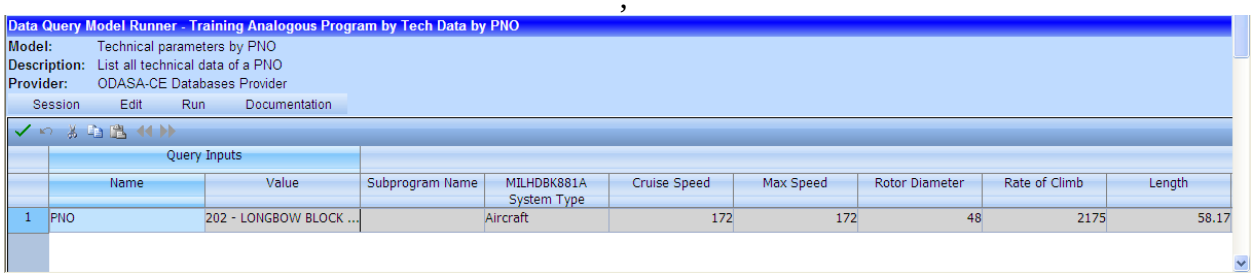


Figure 26: CKB Technical Parameters by PNO Query Results

Opening Saved JIAT Sessions:

You can open an over your saved JIAT sessions using the **Sessions>Open/Manage Sessions** menu item. Figure 27 shows all of your saved JIAT sessions. You can use the Search By and Type items to help you search for a session as your saved session just larger. You can also use this area to delete old sessions that you are no longer using.

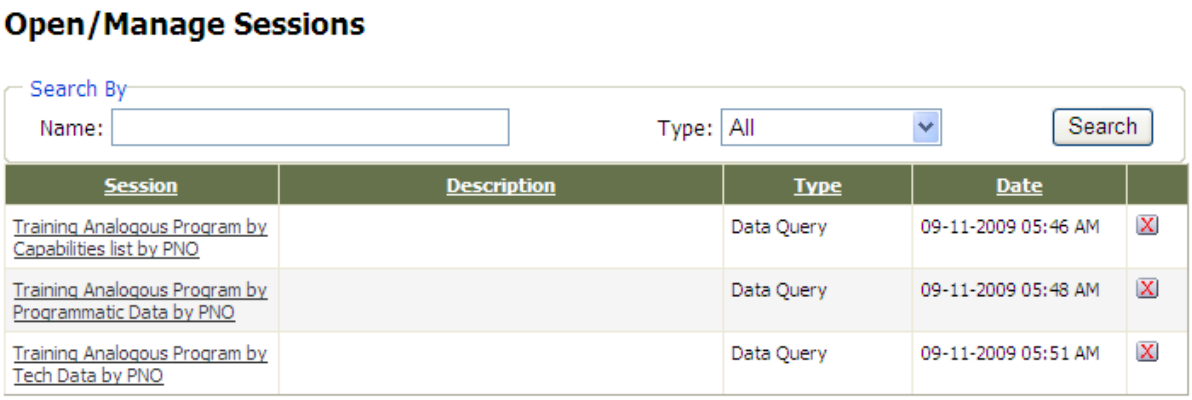


Figure 27: Open/Manage JIAT Sessions

CHAPTER 3 – LOOKING FOR ANALOGOUS SYSTEM DATA WITH AN ACDB PROVIDER

ACDB is the Automated Cost Database platform that is part of the ACEIT suite of tools. Over the last several years different government agencies have sponsored the development and updates to various ACDB databases. JIAT can provide access to these ACDB databases. In this section we learn how to query an ACDB database with JIAT.

ACDB Databases on JIAT:

The JIAT software is capable of hosting any ACDB database. The initial plan is to host the Army ACDBs shows in Table 3 more will follow. More information about each database is provided in Appendix A. Only users with permission are able to view the individual databases.

Table 3: ACDB Army Databases

Database	Service
U.S. Army Aircraft &Unmanned Aerial Systems (UAS) Automated Cost Database (ACDB	Army
U.S. Army Wheeled and Track Vehicle Automated Cost Database (ACDB)	Army
U.S. Army Communications & Electronics Automated Cost Database (ACDB)	Army
U.S. Army Missiles & Munitions Automated Cost Database (ACDB)	Army

ACDB Providers:

Each ACDB database is hosted on JIAT as a separate Provider. Figure 28 shows the Provider list with the sample ACDB Provider. As new ACDB databases are added to the system each database appears separately.

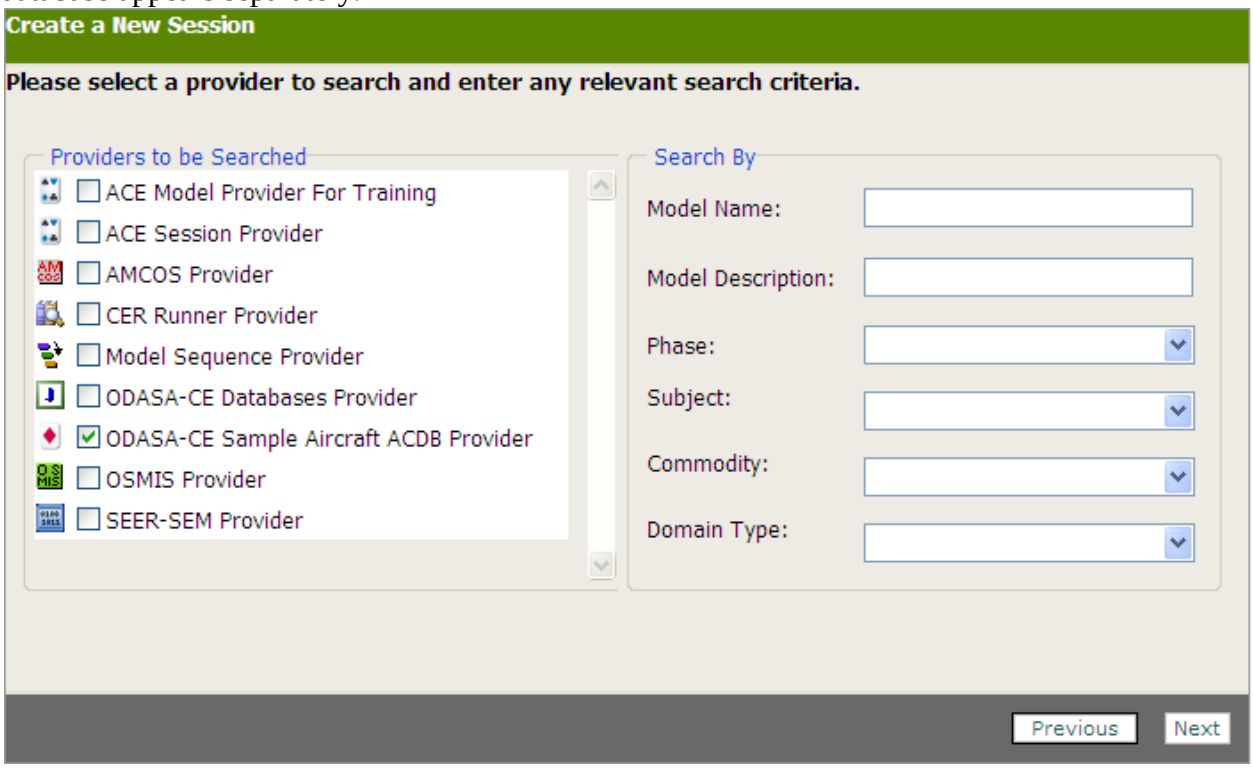


Figure 28: Selecting an ACDB Provider

General ACDB Providers Operation:

Many ACDB databases have more than one standard WBS to allow you to view the data with different mapping structures. For example some database may be structured by WBS Number and/or by CES numbers. The different ACDB WBS Structure options for a given database are listed on the Model selection page in JIAT. In the ODASA-CE Sample Aircraft ACDB database as shown in Figure 29 there are two structures; Cost by CES and Cost by WBS. The Model listing for each ACDB Provider is specific to that ACDB database. To run a data query on an ACDB database select one of the Models from the list and select Next and then Finish to create the Data Query Model.

Figure 29: Selecting an ACDB Model

Figure 30 shows the sample ACDB Data Query Model Runner. Notice the common data query format viewed with the CKB database discussed in the last Chapter. To run a query select **Run>Query**.

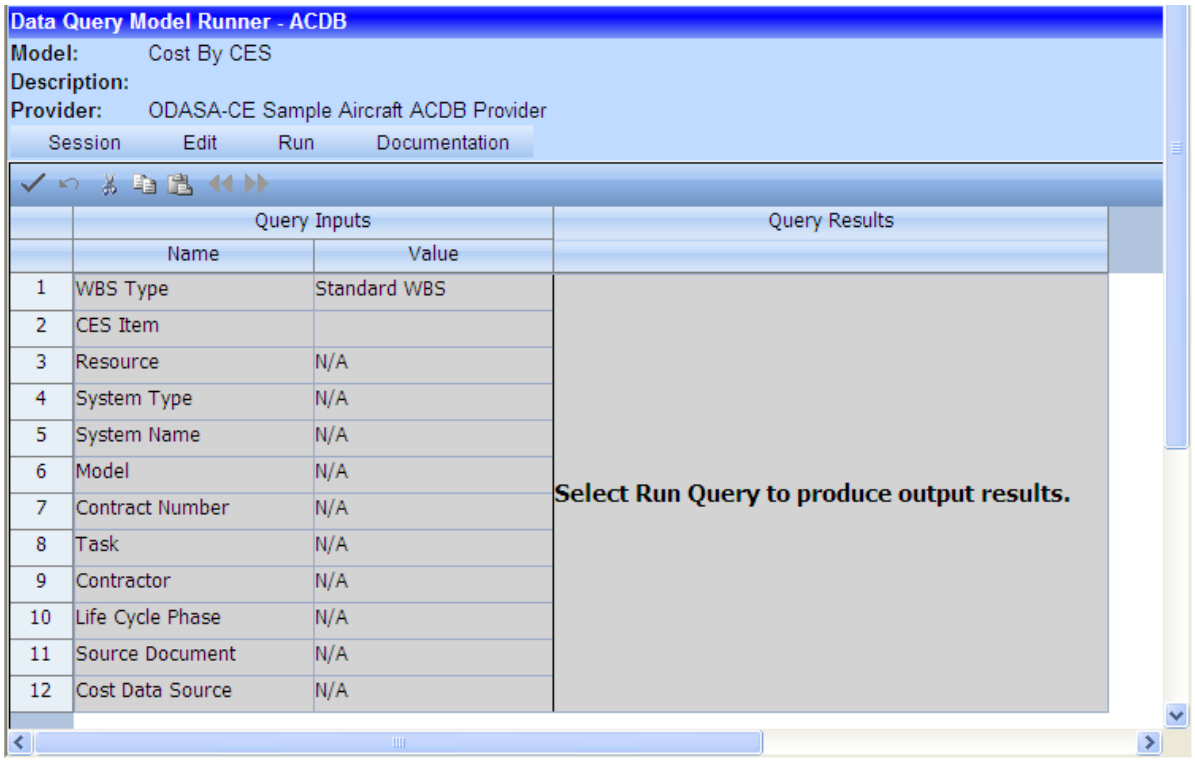


Figure 30: Sample ACDB Data Query Model Runner

Enter the search criteria for the types of data you are looking for via the drop downs in the Data Query Inputs dialog shown in Figure 31. As you make selections with the drop downs lower elements activate to allow inputs.

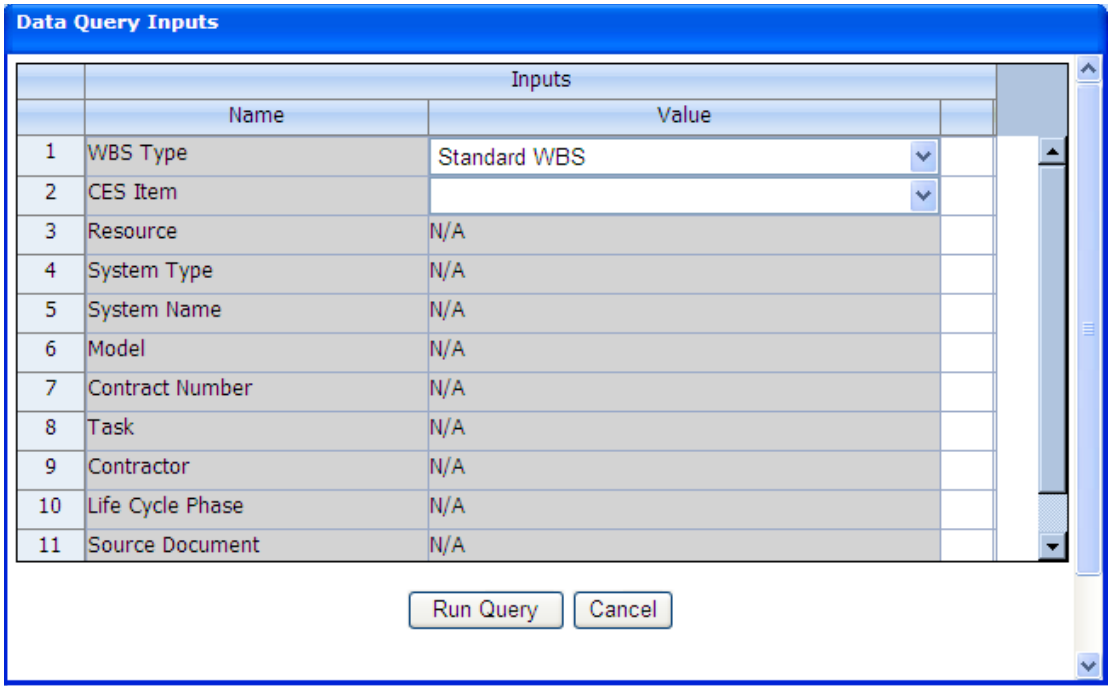


Figure 31: Sample ACDB Data Query Inputs

Figure 32 shows the Data Query dialog with items selected. Make sure to select a Source Document type and Cost Data Sources at the bottom of the list. When you are finished with your selections select Run Query. If you have not entered enough items you will received a message that insufficient inputs were provided and you can continue to specify additional input values.

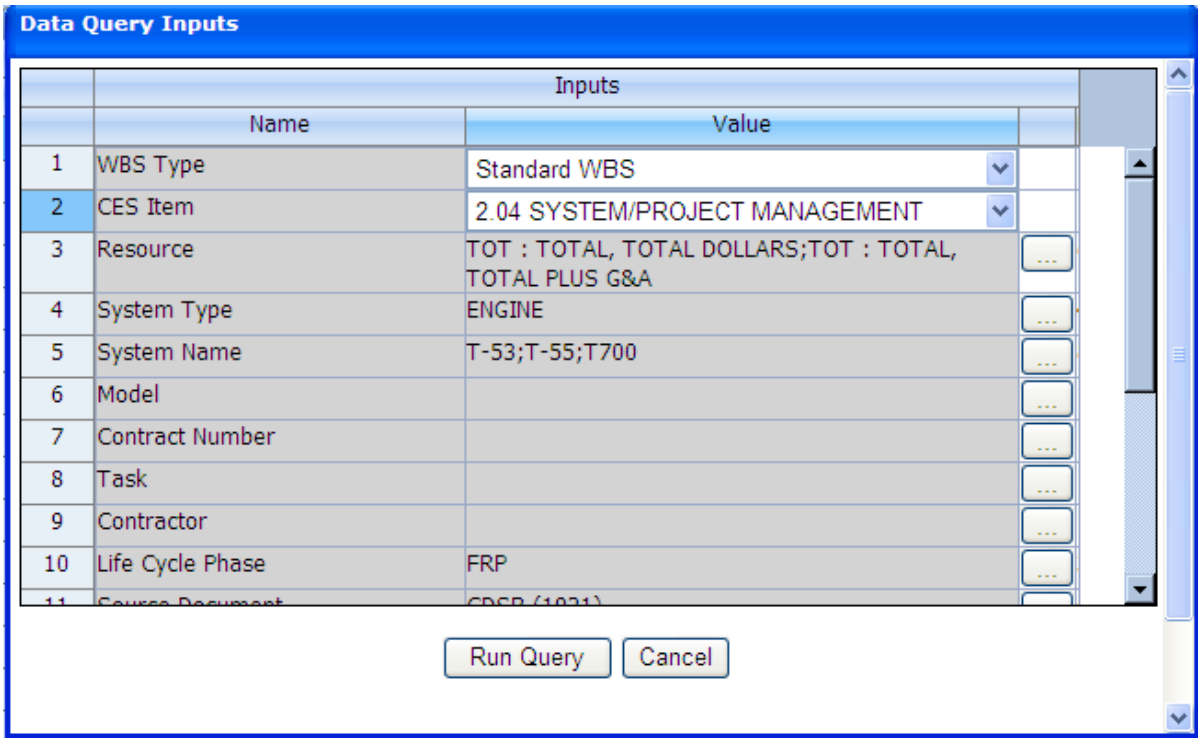
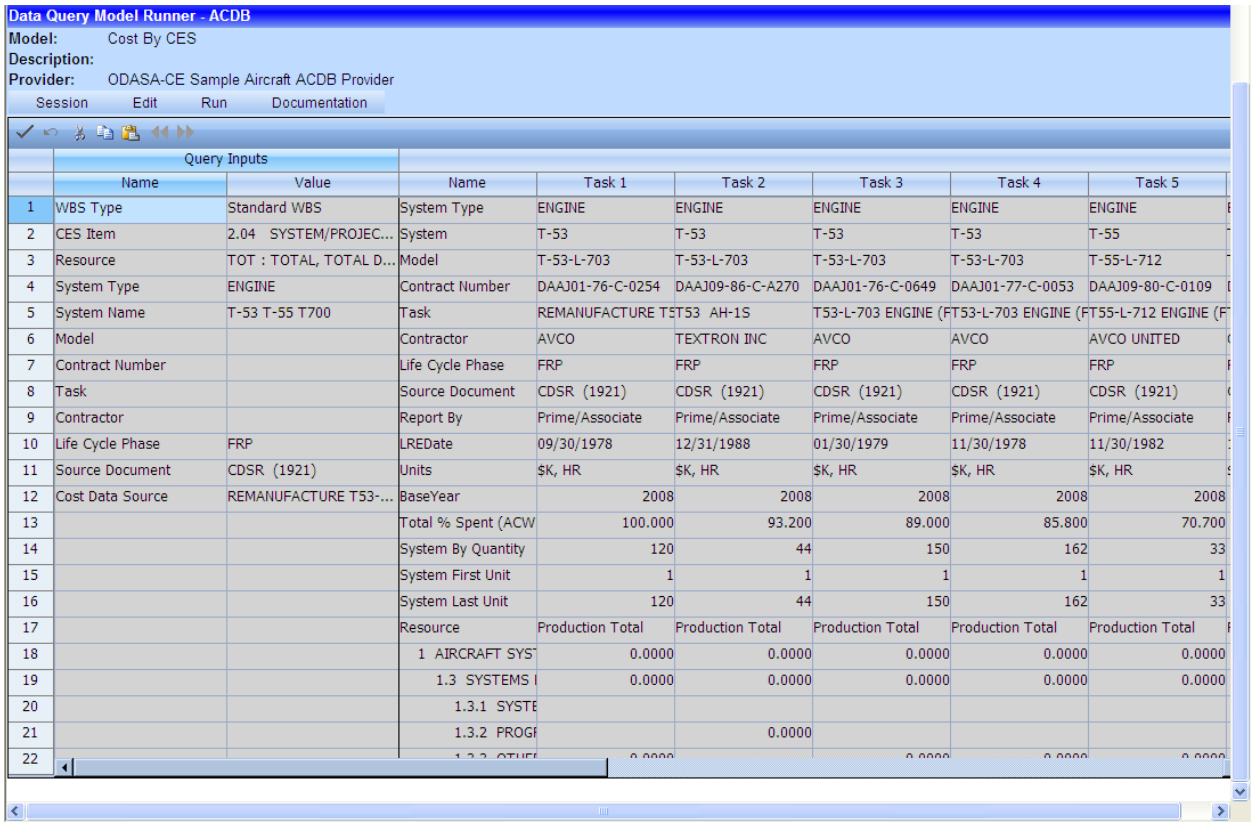


Figure 32: Sample ACDB Data Query Inputs

The result of the Data Query is shown in Figure 33. Each record that met the data query criteria is listed as a separate column. This is a good place to save your JIAT session so that you can view the results of the query again later.



Data Query Model Runner - ACDB

Model: Cost By CES
Description:
Provider: ODASA-CE Sample Aircraft ACDB Provider

Session Edit Run Documentation

Query Inputs

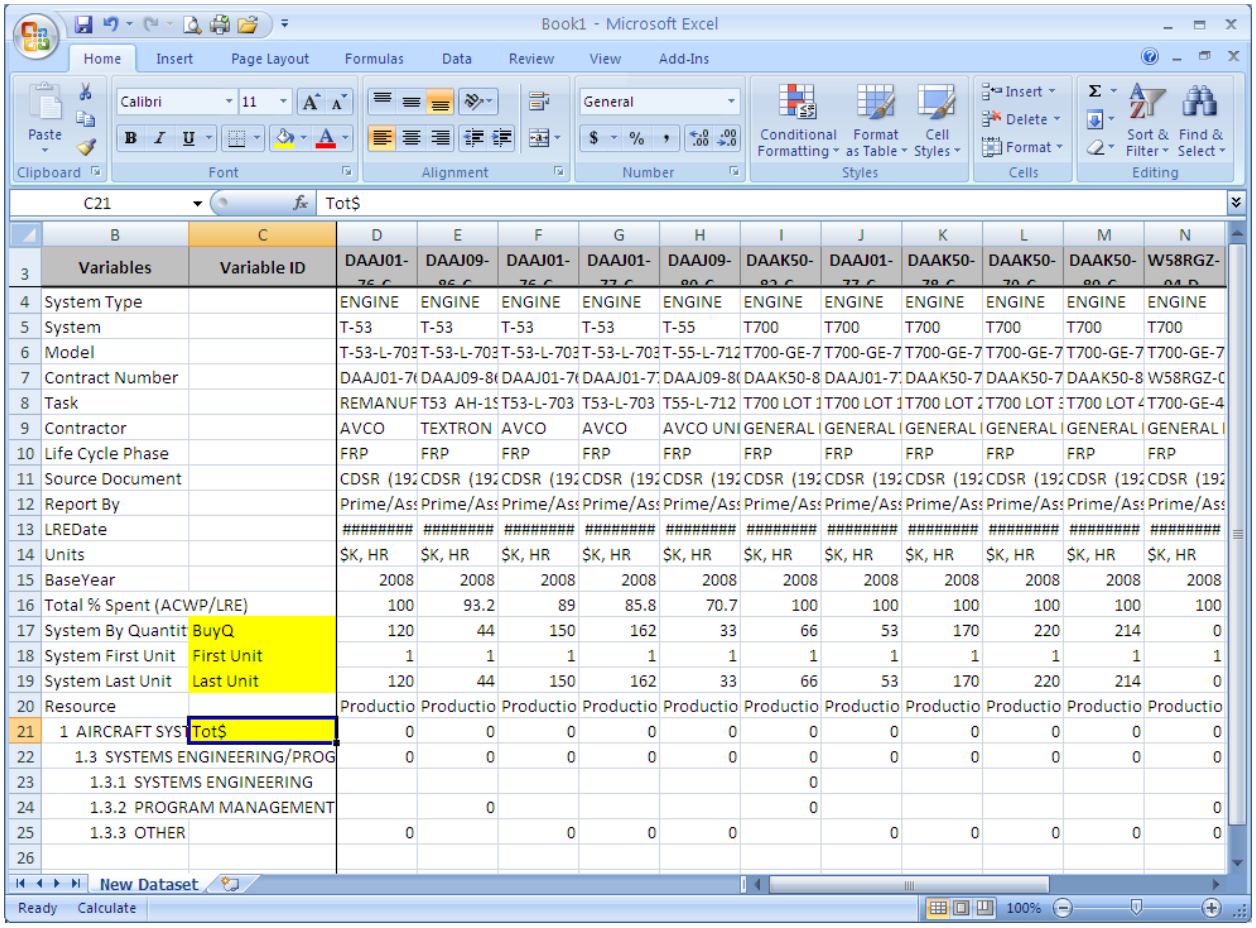
	Name	Value	Name	Task 1	Task 2	Task 3	Task 4	Task 5
1	WBS Type	Standard WBS	System Type	ENGINE	ENGINE	ENGINE	ENGINE	ENGINE
2	CES Item	2.04 SYSTEM/PROJEC...	System	T-53	T-53	T-53	T-53	T-55
3	Resource	TOT : TOTAL, TOTAL D...	Model	T-53-L-703	T-53-L-703	T-53-L-703	T-53-L-703	T-55-L-712
4	System Type	ENGINE	Contract Number	DAAJ01-76-C-0254	DAAJ09-86-C-A270	DAAJ01-76-C-0649	DAAJ01-77-C-0053	DAAJ09-80-C-0109
5	System Name	T-53 T-55 T700	Task	REMANUFACTURE T5	T53 AH-1S	T53-L-703 ENGINE (F	T53-L-703 ENGINE (F	T55-L-712 ENGINE (F
6	Model		Contractor	AVCO	TEXTRON INC	AVCO	AVCO	AVCO UNITED
7	Contract Number		Life Cycle Phase	FRP	FRP	FRP	FRP	FRP
8	Task		Source Document	CDSR (1921)	CDSR (1921)	CDSR (1921)	CDSR (1921)	CDSR (1921)
9	Contractor		Report By	Prime/Associate	Prime/Associate	Prime/Associate	Prime/Associate	Prime/Associate
10	Life Cycle Phase	FRP	LREDate	09/30/1978	12/31/1988	01/30/1979	11/30/1978	11/30/1982
11	Source Document	CDSR (1921)	Units	$K, HR	$K, HR	$K, HR	$K, HR	$K, HR
12	Cost Data Source	REMANUFACTURE T53-...	BaseYear	2008	2008	2008	2008	2008
13			Total % Spent (ACW	100.000	93.200	89.000	85.800	70.700
14			System By Quantity	120	44	150	162	33
15			System First Unit	1	1	1	1	1
16			System Last Unit	120	44	150	162	33
17			Resource	Production Total	Production Total	Production Total	Production Total	Production Total
18			1 AIRCRAFT SYS	0.0000	0.0000	0.0000	0.0000	0.0000
19			1.3 SYSTEMS I	0.0000	0.0000	0.0000	0.0000	0.0000
20			1.3.1 SYSTE					
21			1.3.2 PROGI		0.0000			
22								

Figure 33: Sample ACDB Data Query Results

Once you have located potential analogous system data records the next step is to analysis the data. You can analysis the data with any statistical analysis tool. Data from any JIAT Provider can be copied to Excel using the **Edit>Copy** command. If you plan to use CO$TAT for data analysis do the following:

- Open CO$TAT
- Create a new dataset worksheet with the observations set to the columns
- Move to JIAT and copy the data in the task columns
- Move to the CO$TAT Excel datasheet and paste the data to the observation columns
- Move back to JIAT and copy the data in the name column
- Move back to the CO$TAT Excel datasheet and paste the name information into the variables columns
- Enter Variable IDs for any rows you want to perform analysis on
- Run any of the CO$TAT analysis types

Figure 34 shows a CO$TAT datasheet with sample JIAT Provided ACDB data in it. Notice that Variable IDs were added for the BUYQ, First Unit, Last Unit, and Tot$. This datasheet is now set up to run a learning curve analysis.



	B	C	D	E	F	G	H	I	J	K	L	M	N
3	Variables	Variable ID	DAAJ01-	DAAJ09-	DAAJ01-	DAAJ01-	DAAJ09-	DAAK50-	DAAJ01-	DAAK50-	DAAK50-	DAAK50-	W58RGZ-
4	System Type		ENGINE	ENGINE	ENGINE	ENGINE	ENGINE	ENGINE	ENGINE	ENGINE	ENGINE	ENGINE	ENGINE
5	System		T-53	T-53	T-53	T-53	T-55	T700	T700	T700	T700	T700	T700
6	Model		T-53-L-703	T-53-L-703	T-53-L-703	T-53-L-703	T-55-L-712	T700-GE-7	T700-GE-7	T700-GE-7	T700-GE-7	T700-GE-7	T700-GE-7
7	Contract Number		DAAJ01-7(	DAAJ09-8(	DAAJ01-7(	DAAJ01-7	DAAJ09-8(	DAAK50-8	DAAJ01-7	DAAK50-7	DAAK50-7	DAAK50-8	W58RGZ-(
8	Task		REMANUF	T53 AH-1S	T53-L-703	T53-L-703	T55-L-712	T700 LOT 1	T700 LOT 1	T700 LOT 2	T700 LOT 3	T700 LOT 4	T700-GE-4
9	Contractor		AVCO	TEXTRON	AVCO	AVCO	AVCO UNI	GENERAL I	GENERAL I	GENERAL I	GENERAL I	GENERAL I	GENERAL I
10	Life Cycle Phase		FRP	FRP	FRP	FRP	FRP	FRP	FRP	FRP	FRP	FRP	FRP
11	Source Document		CDSR (192	CDSR (192	CDSR (192	CDSR (192	CDSR (192	CDSR (192	CDSR (192	CDSR (192	CDSR (192	CDSR (192	CDSR (192
12	Report By		Prime/Ass	Prime/Ass	Prime/Ass	Prime/Ass	Prime/Ass	Prime/Ass	Prime/Ass	Prime/Ass	Prime/Ass	Prime/Ass	Prime/Ass
13	LREDate		########	########	########	########	########	########	########	########	########	########	########
14	Units		$K, HR	$K, HR	$K, HR	$K, HR	$K, HR	$K, HR	$K, HR	$K, HR	$K, HR	$K, HR	$K, HR
15	BaseYear		2008	2008	2008	2008	2008	2008	2008	2008	2008	2008	2008
16	Total % Spent (ACWP/LRE)		100	93.2	89	85.8	70.7	100	100	100	100	100	100
17	System By Quantit	BuyQ	120	44	150	162	33	66	53	170	220	214	0
18	System First Unit	First Unit	1	1	1	1	1	1	1	1	1	1	1
19	System Last Unit	Last Unit	120	44	150	162	33	66	53	170	220	214	0
20	Resource		Productio	Productio	Productio	Productio	Productio	Productio	Productio	Productio	Productio	Productio	Productio
21	1 AIRCRAFT SYST	Tot$	0	0	0	0	0	0	0	0	0	0	0
22	1.3 SYSTEMS ENGINEERING/PROG		0	0	0	0	0	0	0	0	0	0	0
23	1.3.1 SYSTEMS ENGINEERING							0					
24	1.3.2 PROGRAM MANAGEMENT			0				0					0
25	1.3.3 OTHER		0		0	0	0		0	0	0	0	0
26													

Figure 34: Sample ACDB Data Query Results in CO$TAT

CHAPTER 4 – COLLECTING STANDARD LABOR RATES WITH THE AMCOS PROVIDER

AMCOS is the Army Military-Civilian Cost System. It helps users estimate the costs associated with personnel and personnel requirements for different components, grades, and skills. You can access the AMCOS Source data thru JIAT. In this section we show you how to use the AMCOS Provider to look for military and civilian pay rates.

AMCOS Provider:

The AMCOS Provider is another JIAT Data Query Model Runner that operators like CKB and ACDB. You can retrieve AMCOS data with the AMCOS Provider as shown in Figure 35.

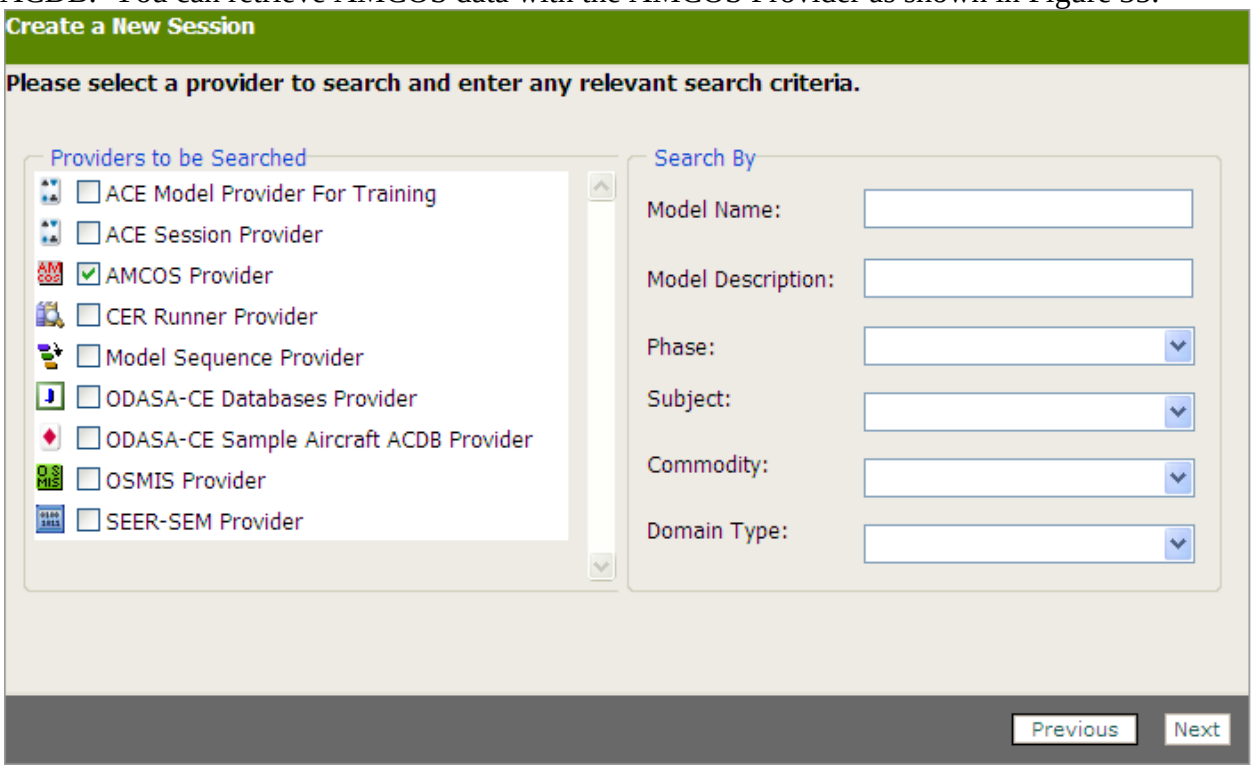


Figure 35: Selecting the AMCOS Provider

The AMCOS Provider offers three sets of data (see Figure 36).

- Active Enlisted
- Active Officer
- Civilian General Schedule

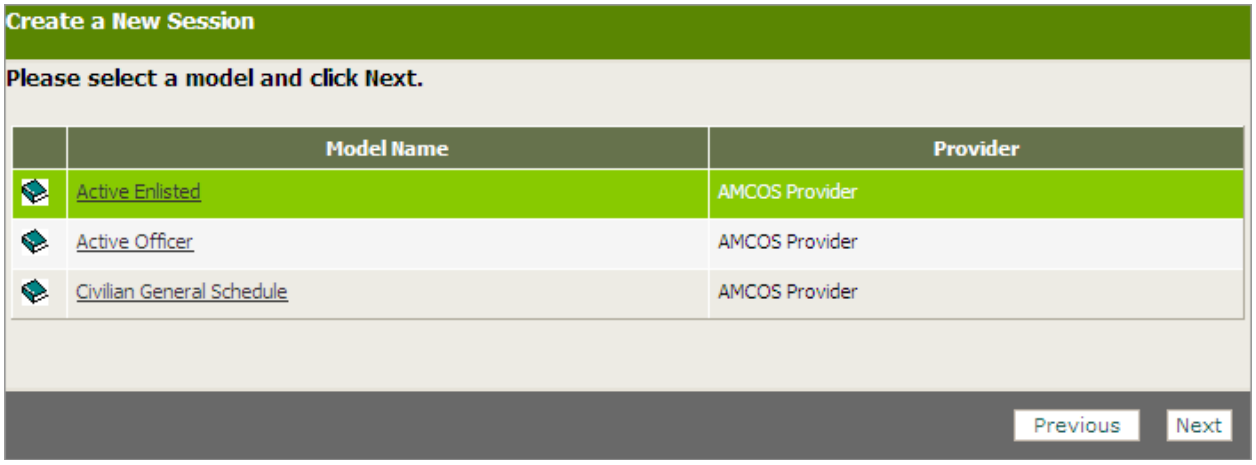


Figure 36: AMCOS Provider Model Options

Figure 37 shows the AMCOS Provider Active Enlisted Data Query Model Runner. The common data query format is used. To run a query select **Run>Query.**

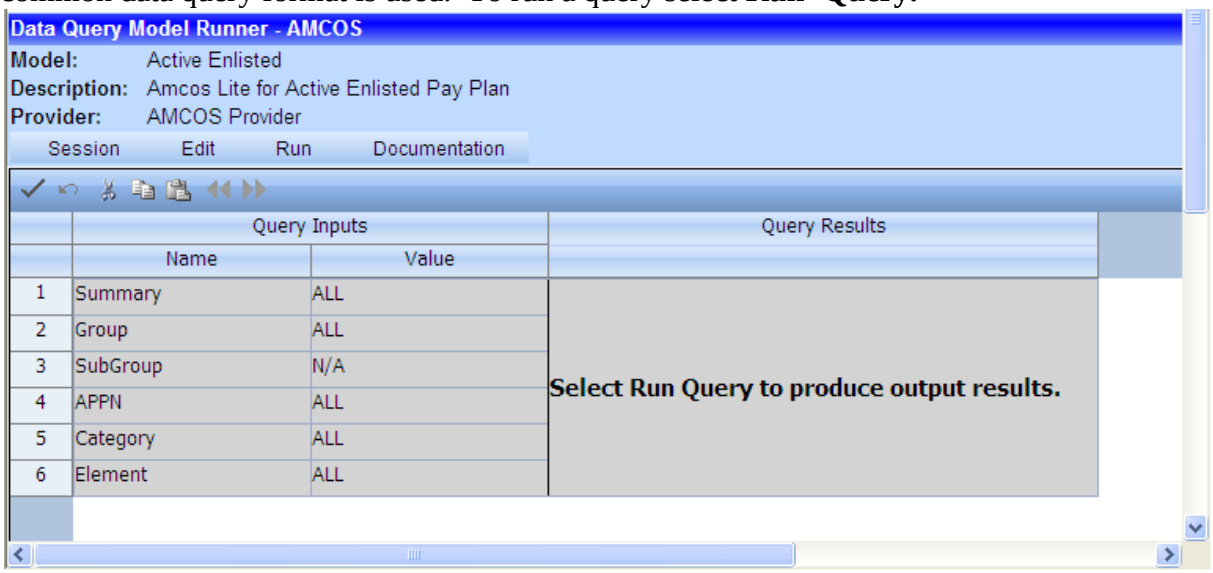


Figure 37: AMCOS Provider Active Enlisted Data Query

Figure 38 provides a picture of the query selections provided for AMCOS.

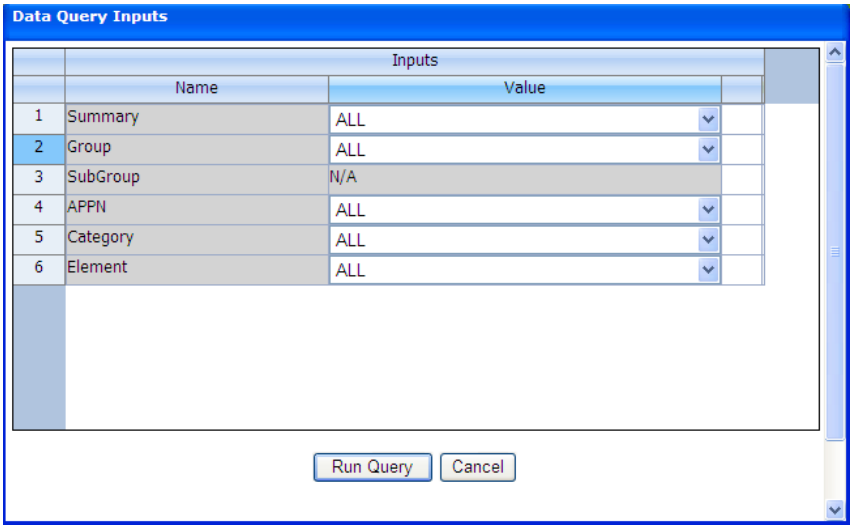


Figure 38: AMCOS Provider Active Enlisted Data Query Inputs

You can search AMCOS by six main elements.

- Summary – select from all, composite standard rates, default, pay and allowances, PCS, and training
- Group – Provides a list of military group types like, Infantry, Engineer, Military Police, and Medical
- Subgroup – Activates with group selection and further defines groups
- APPN – list appropriations
- Category – shows category cost items like, Military Compensation, New GI Bill Costs, and Retirement Pay
- Element – shows element costs like average base pay

There are three main input types for the values in the AMCOS Provider.

- ALL – will return all the items in the drop down as separate items
- SUM – will return the sum of all the items in the drop down as a single item
- Custom Values Items – Specific detailed items

Figure 39 shows an example of the results of an Active Enlist Data Query for the cost of Aircraft Electricians (note the data shown is not real). The fiscal year and units for the costs are also provided in the query results.

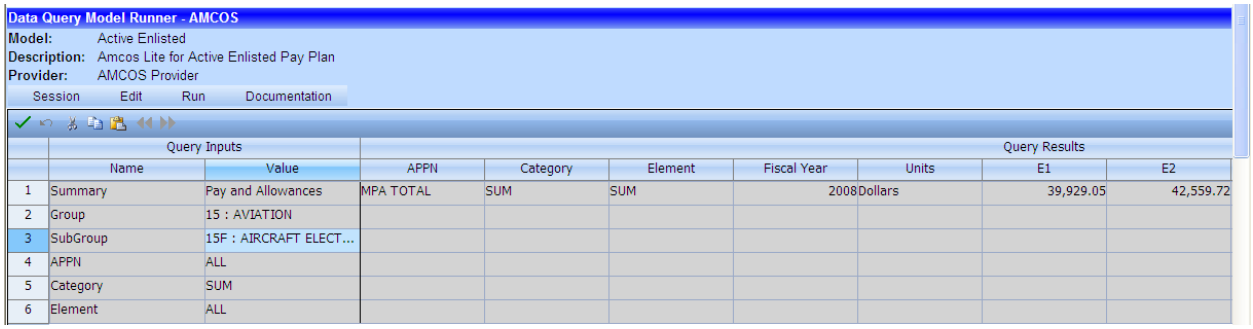


Figure 39: AMCOS Provider Active Enlisted Data Query Results

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CHAPTER 5 – GATHERING RELATED O&S DATA WITH THE OSMIS PROVIDER

The Operating and Support Management Information System (OSMIS) is the core of the Visibility and Management of Operating and Support Costs (VAMOSC) program. OSMIS tracks operating and support information for over one thousand major Army weapon/materiel systems for the Office of the Deputy Assistant Secretary of the Army for Cost and Economics (DASA-CE) OSMIS-tracked systems include combat vehicles, tactical vehicles, artillery systems, aircraft, electronic systems, and miscellaneous engineering systems.

OSMIS Provider:

The OSMIS Provider is another JIAT Data Query Model Runner similar to the CKB and ACDB functionality. You can retrieve OSMIS data with the OSMIS Provider as shown in Figure 40.

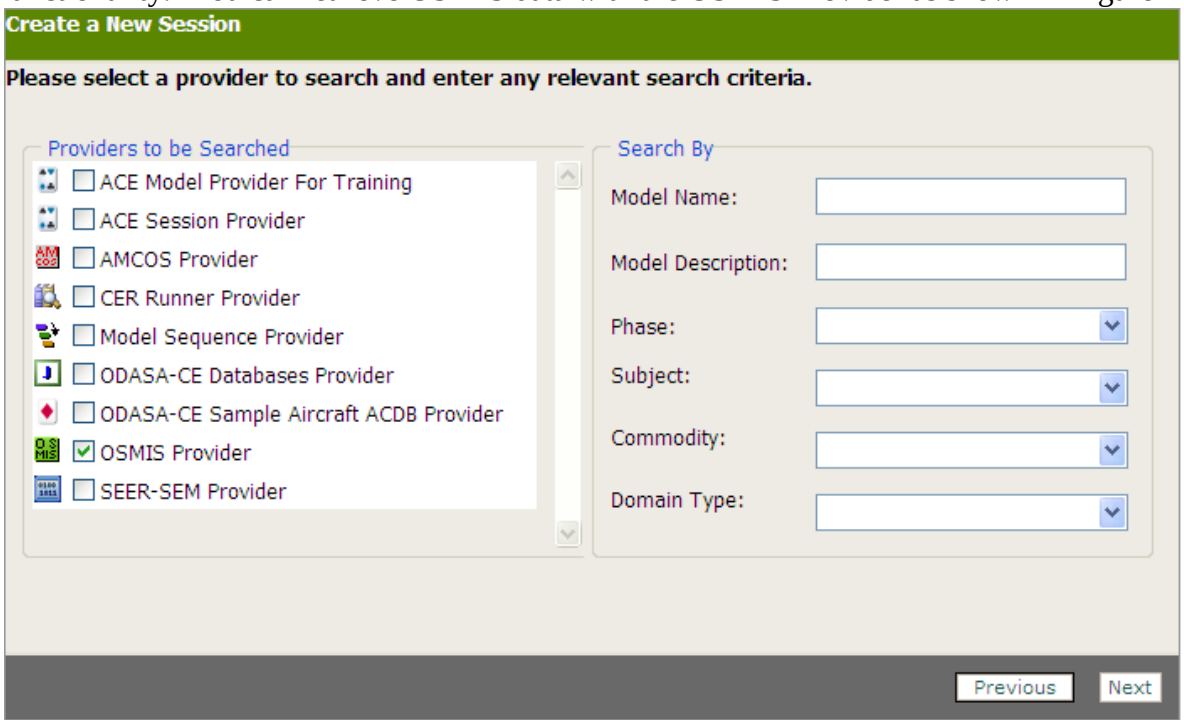

Figure 40: Selecting the OSMIS Provider

The OSMIS Provider offers two sets of data (see Figure 41).

- OSMIS Summary Cost Metric – shows data for a single year
- OSMIS Summary Cost Metric by Year – shows data for a range of years

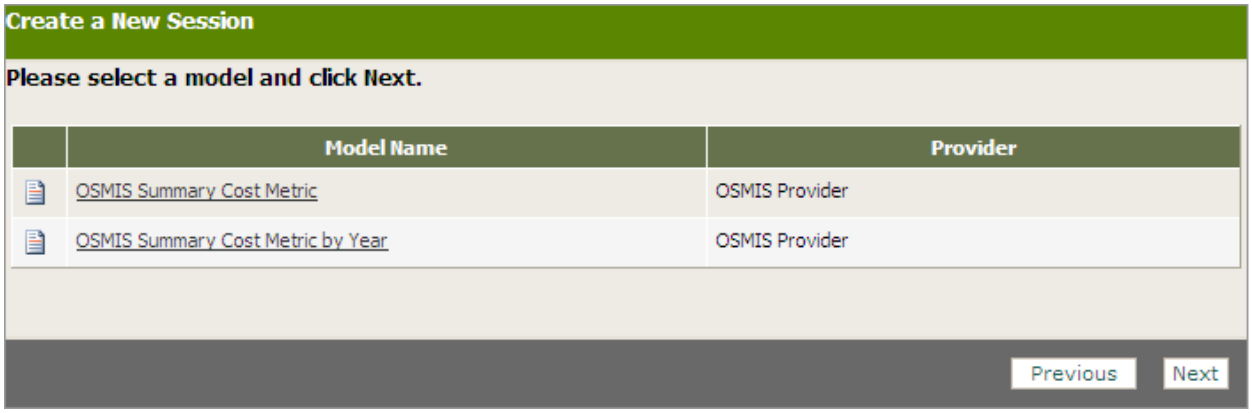

Figure 41: OSMIS Provider Model Options

Figure 42 shows the OSMIS Summary Cost Metric Model Runner. The common data query format is used. To run a query select **Run>Query**.

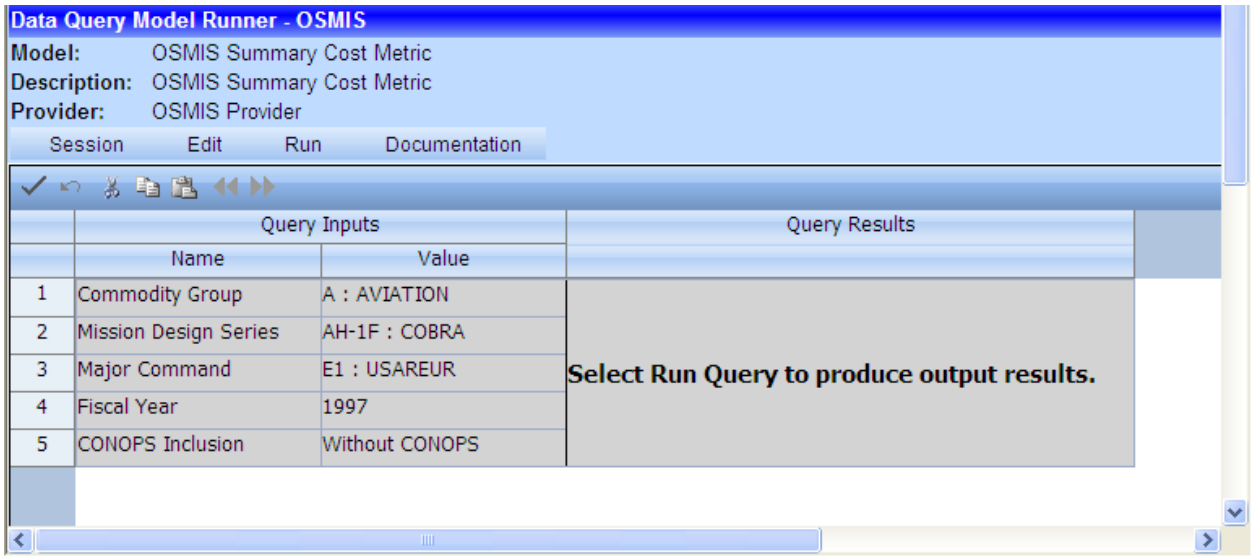

Figure 42: OSMIS Summary Cost Metric Data Query

Figure 43 provides a picture of the query selection provided for OSMIS. As you select values for the name inputs the subsequent value drop downs are automatically updated with the appropriate item lists.

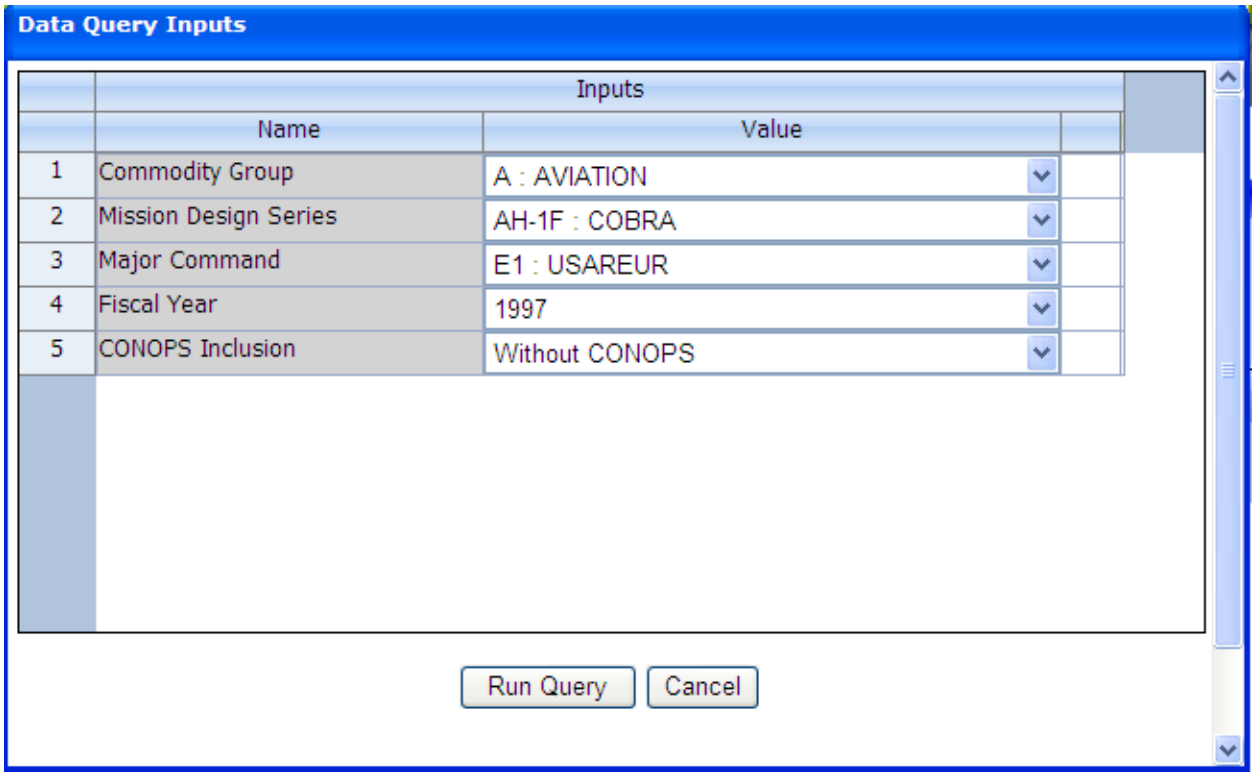

Figure 43: OSMIS Provider Summary Cost Metric Data Query Inputs

You can search OSMIS by five main elements.

- **Commodity Group** – list the seven commodity groups; Aviation, Combat, Electronics Missile, Engineering, Armament, and Tactical Vehicles
- **Mission Design Series** – lists all the designs listed in OSMIS for the set commodity group
- **Major Command** – lists the major commands that have systems of the type selected
- **Fiscal Year** – lists the fiscal years when this system was active in the command and for which data was collected
- **CONOPS Inclusion** – select a CONOPS setting; options include Without CONOPS, CONOPS Only, and With CONOPS

Figure 44 shows example results for the operations and support costs for UH-60A Blackhawks in the USAREUR Command in 2007 with CONOPS (note the data shown is not real). The fiscal Year and units for the costs are also provided in the query results.

Data Query Model Runner - OSMIS

Model: OSMIS Summary Cost Metric
Description: OSMIS Summary Cost Metric
Provider: OSMIS Provider

Session Edit Run Documentation

	Query Inputs		Query Results			
	Name	Value	Variable Name	Fiscal Year	Units	Value
1	Commodity Group	A : AVIATION	Consumables	2007	$	13,396,560.55
2	Mission Design Series	UH-60A : BLACKHAWK	Repairables	2007	$	46,110,977.46
3	Major Command	E1 : USAREUR	Activity	2007	HOURS	14822
4	Fiscal Year	2007	Density	2007	SYSTEMS	65
5	CONOPS Inclusion	With CONOPS	Consumables per Sys	2007	$ per SYSTEM	206,100.93
6			Repairables per Syst	2007	$ per SYSTEM	709,399.65
7			Consumables per Uni	2007	$ per HOUR	903.83
8			Repairables per Unit	2007	$ per HOUR	3,110.98

Figure 44: OSMIS Provider Summary Cost Metric Data Query Results

Figure 45 shows the same example inputs as in Figure 44 but run with the Summary Cost Metric by year Model. This allows you to look across a range of years to look at operations and support levels over time.

Data Query Model Runner - OSMIS

Model: OSMIS Summary Cost Metric by Year
Description: OSMIS Summary Cost Metric by Year
Provider: OSMIS Provider

Session Edit Run Documentation

	Query Inputs		Query Results						
	Name	Value	Variable Name	Units	2000	2001	2002	2003	2004
1	Commodity Group	A : AVIATION	Consumables	$	9,548,695.74	12,905,781.89	14,527,164.37	18,078,819.96	12,508,081.38
2	Mission Design Series	UH-60A : BLACKHAWK	Repairables	$	42,577,812.92	40,984,671.89	61,390,939.54	76,993,106.68	54,562,788.15
3	Major Command	E1 : USAREUR	Operating Tempo	HOURS	19050	29859	15956	22361	14643
4	Start Year	2000	Density	SYSTEMS	103	119	101	87	85
5	End Year	2007	Consumables per Sys	$ per SYSTEM	92,705.78	108,451.95	143,833.31	207,802.53	147,153.90
6	CONOPS Inclusion	With CONOPS	Repairables per Syst	$ per SYSTEM	413,376.82	344,409.01	607,831.08	884,978.24	641,915.15
7			Consumables per Uni	$ per HOUR	501.24	432.22	910.45	808.50	854.20
8			Repairables per Unit	$ per HOUR	2,235.06	1,372.61	3,847.51	3,443.19	3,726.20

Figure 45: OSMIS Provider Summary Cost Metric by Year Data Query Results

CHAPTER 6 – COLLECTING ANALOGOUS SYSTEM FORCES DATA

JIAT includes the Army Cost and Factors Handbook (CFH) portion of the Force and Organization Cost Estimating System (FORCES). CFH is a searchable, web-based database containing the data used by the other tools in FORCES. The CFH is used by analysts to obtain detailed information on the various costs associated with unit operations. In this Chapter we learn how to access the FORCES CFH data thru JIAT.

The FORCES CFH data and the ODASA–CE Databases Provider:

The FORCES CFH data is provided in JIAT thru the ODASA-CE Databases Provider. This is the same Provider we used in Chapter 2 to search for CKB data. Figure 46 shows the ODASA-CE Databases Provider selection.

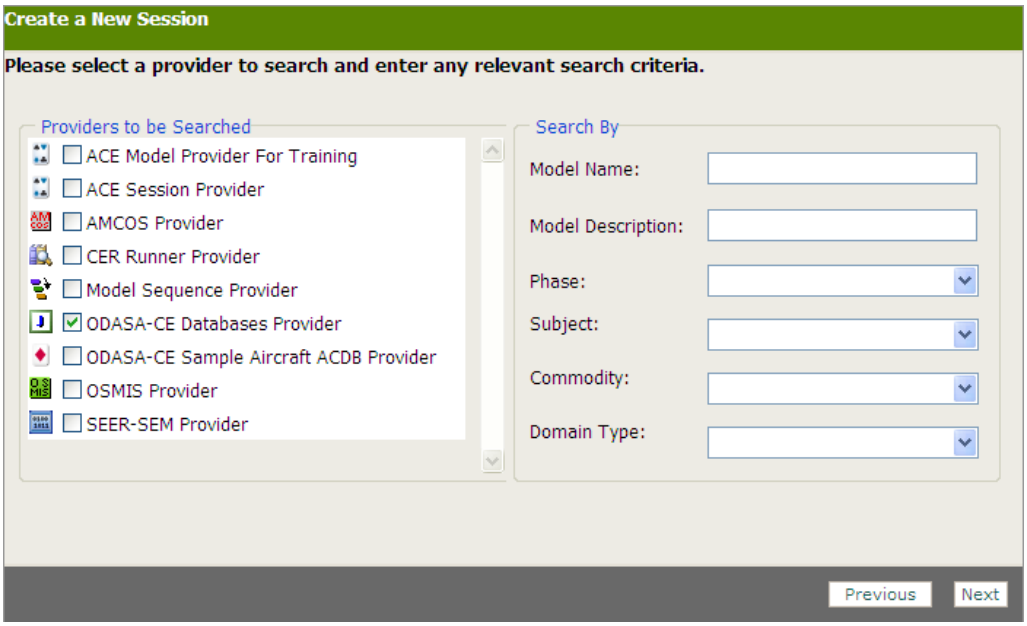

Figure 46: Selecting the ODASA-CE Databases Provider to Work with FORCES Data

There are four FORCES CFH Model selections available in JIAT (see Figure 47). These items can be used to develop estimating methods for operations and support.

- Cost Factors Handbook Flying Hour Cost
- Cost Factors Handbook Fuel Cost
- Cost Factors Handbook Equipment Cost
- Cost Factors Handbook Replenishment Cost

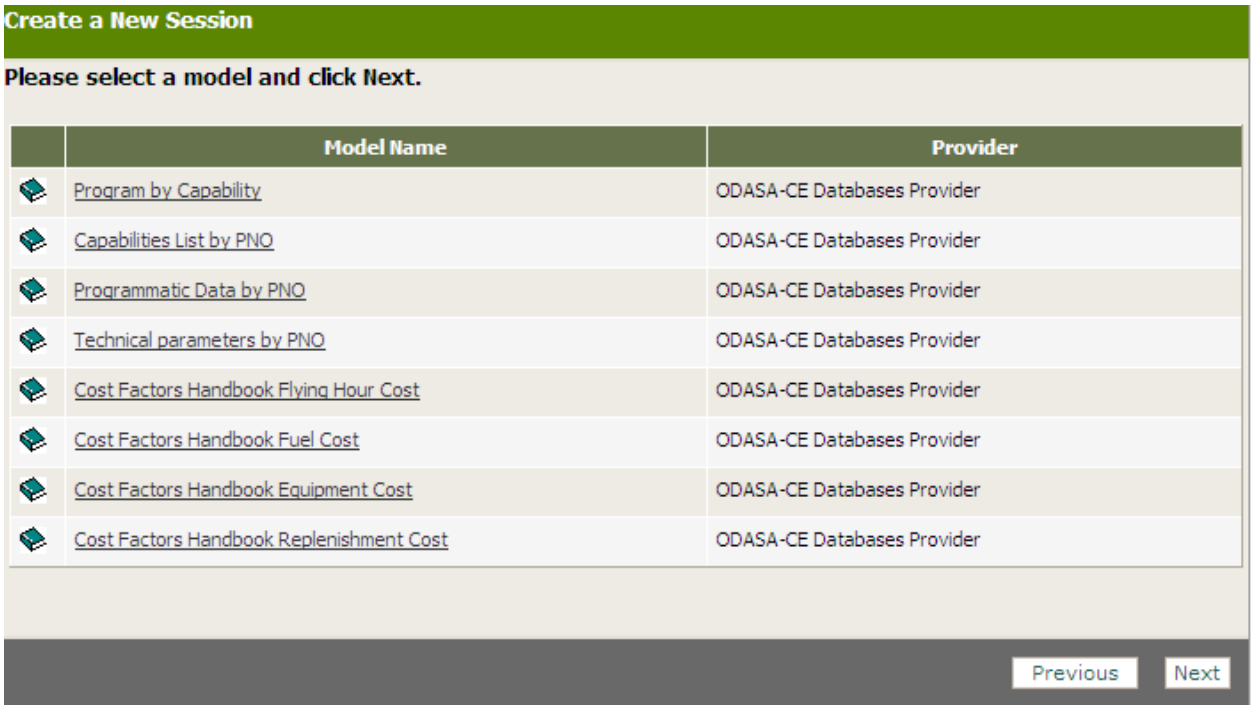

Figure 47: FORCES CFH Options in JIAT

The FORCES CFH Flying Hour Cost Data Query:

Figure 48 shows the FORCES Cost Factors Handbook Flying Hour Cost Data Query. The common data query format is used. There is a similar format for all four of the FORCES Cost Factor Handbook items. To run a query select **Run>Query**.

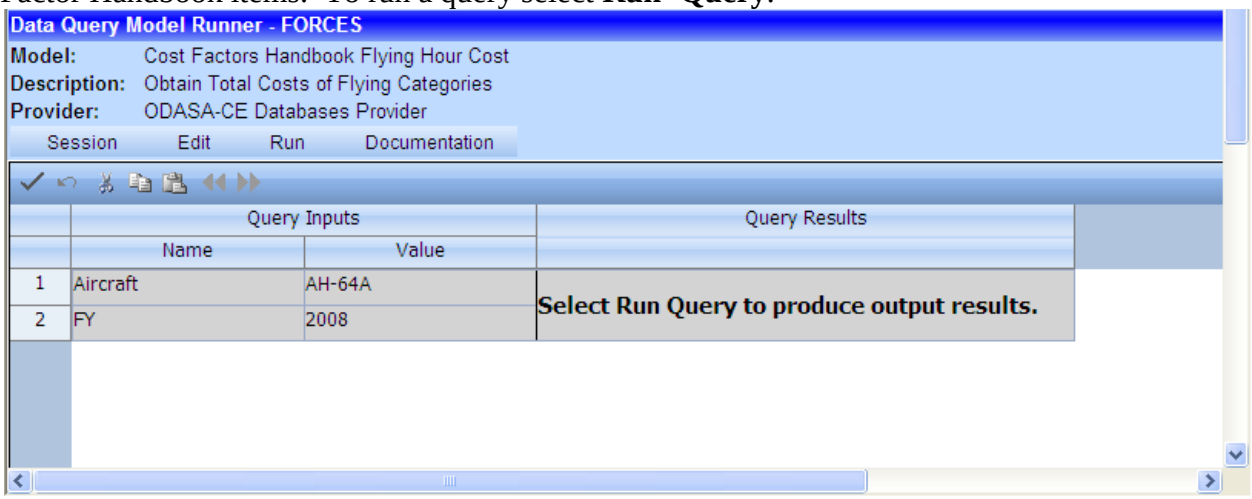

Figure 48: FORCES Cost Factors Handbook Flying Hour Cost Data Query

Data Query inputs selections are set via the dialog shown in Figure 49. You can set the Aircraft type and the Fiscal Year you wish to study.

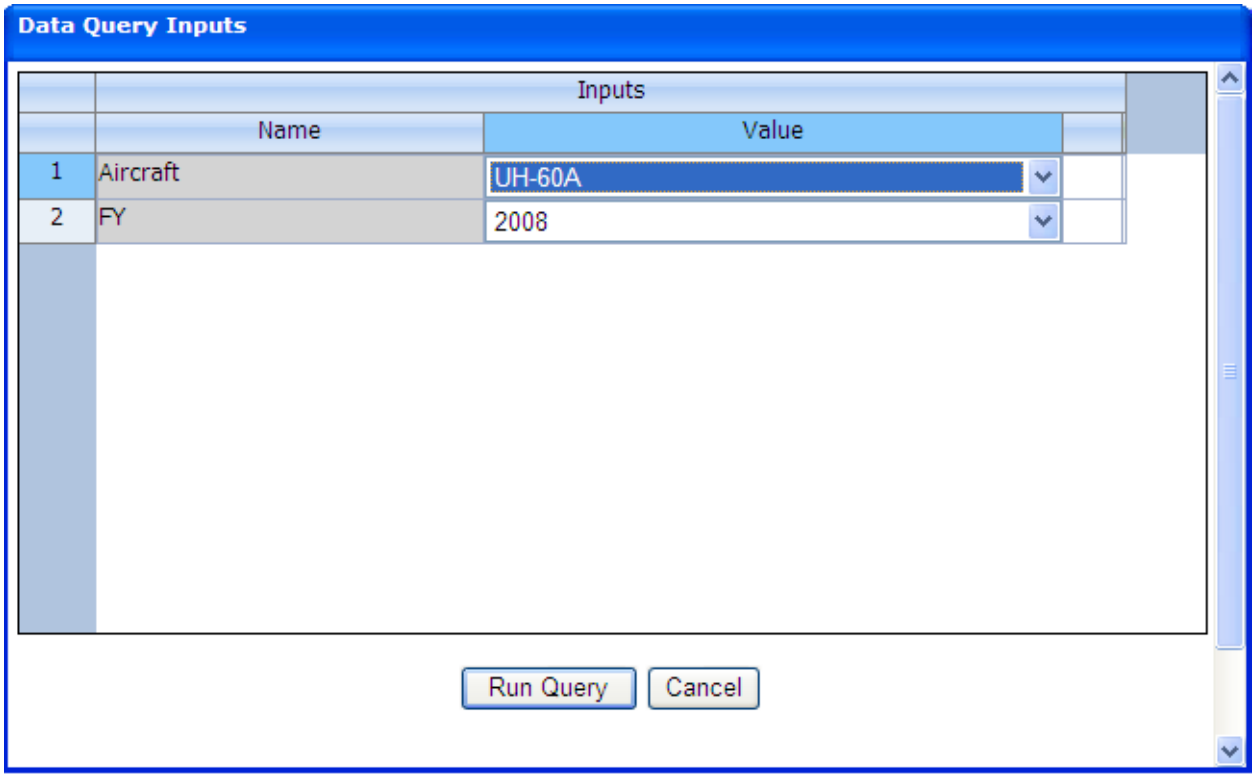

Figure 49: FORCES Cost Factors Handbook Flying Hour Cost Data Query Inputs

Figure 50 shows some sample results for Flying Hours Costs for the UH-60A.

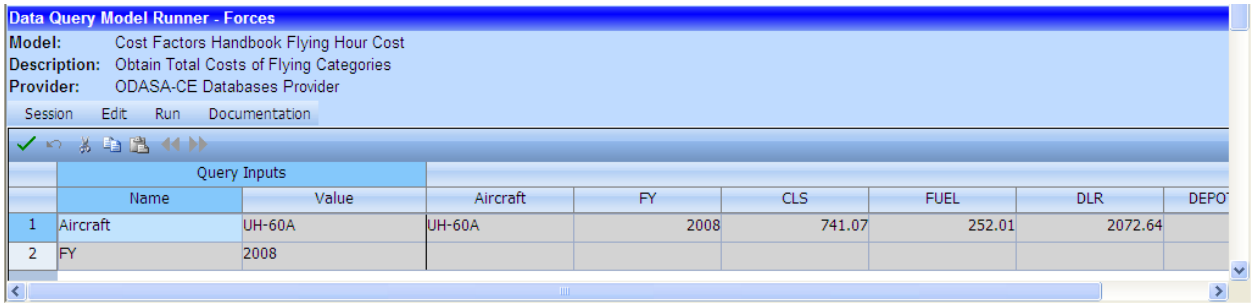

Figure 50: FORCES Cost Factors Handbook Flying Hour Cost Data Query Results

The FORCES CFH Fuel Cost Data Query:

The Data Query Model Runners are similar for all the FORCES items; however the Data Query Inputs names and values are different. For the Fuel Cost Model the inputs are (see Figure 51):

- Measure – select Barrel, Gallon or ALL (lists both barrel and gallon)
- FY – select a fiscal year
- Fuel Type – select from several fuel options

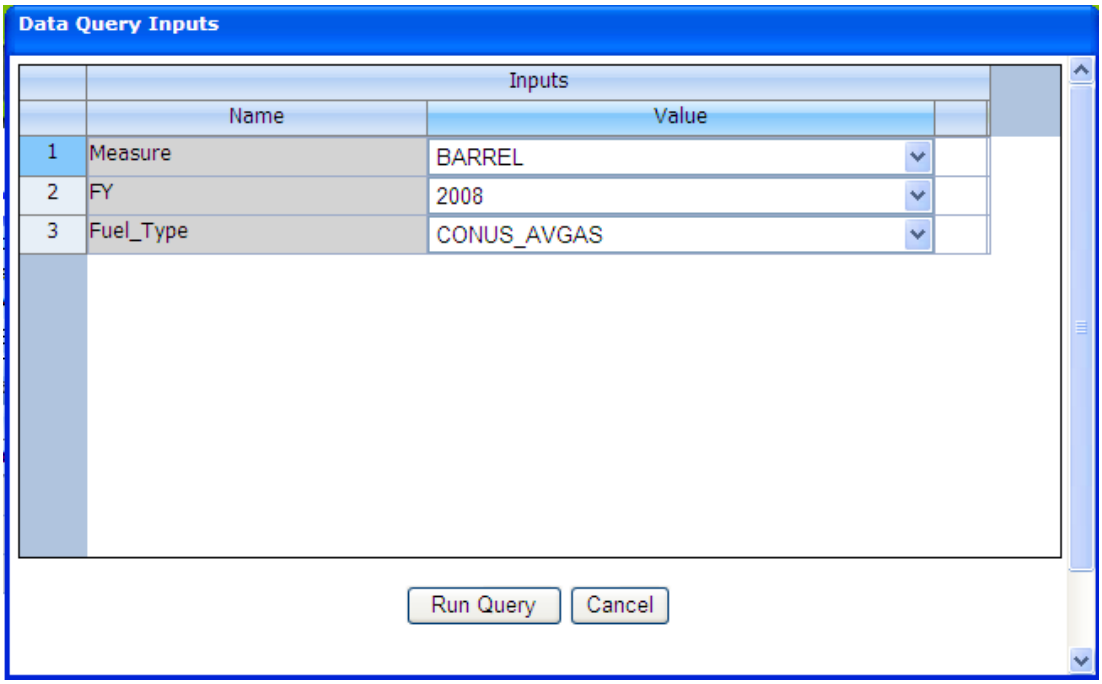

Figure 51: FORCES Cost Factors Handbook Fuel Cost Data Query Inputs

Figure 52 shows sample FORCES Cost Factors Handbook Fuel Cost data query results.

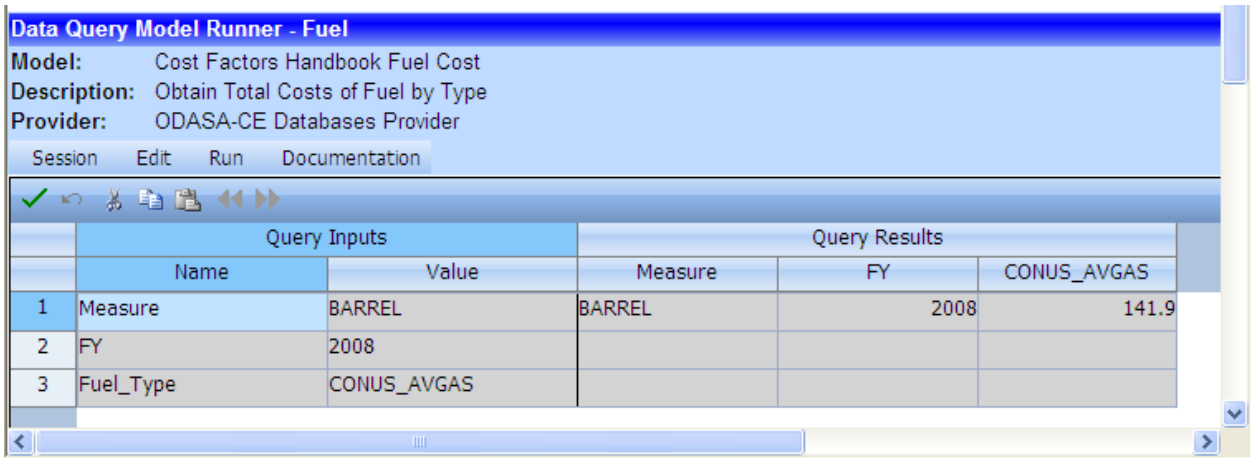

Figure 52: FORCES Cost Factors Handbook Fuel Cost Data Query Results

The FORCES CFH Equipment Cost Data Query:

The Equipment Cost Model inputs are list by LIN numbers (see Figure 53):

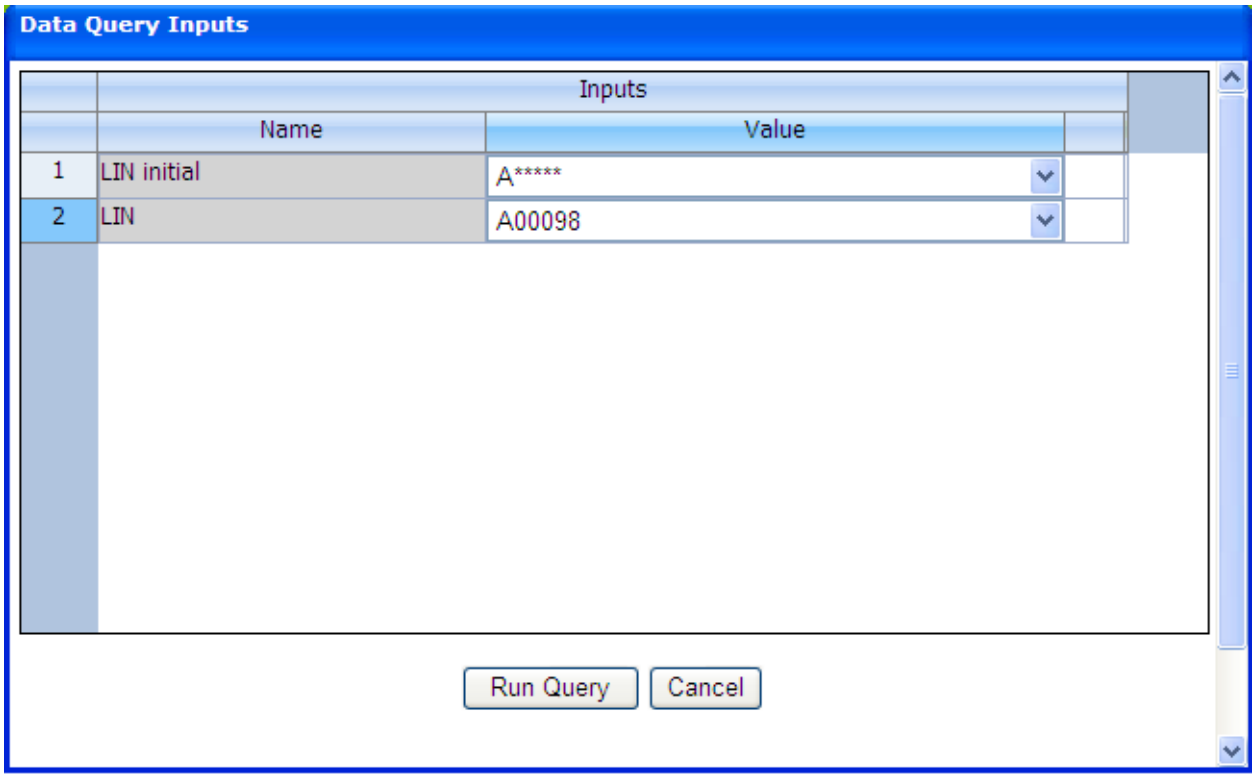

Figure 53: FORCES Cost Factors Handbook Equipment Cost Data Query Inputs

Figure 54 shows sample FORCES Cost Factors Handbook Equipment Cost data query results.

Figure 54: FORCES Cost Factors Handbook Equipment Cost Data Query Results

The FORCES CFH Replenishment Cost Data Query:

The Replenishment Cost Model inputs are list by LIN numbers (see Figure 55):

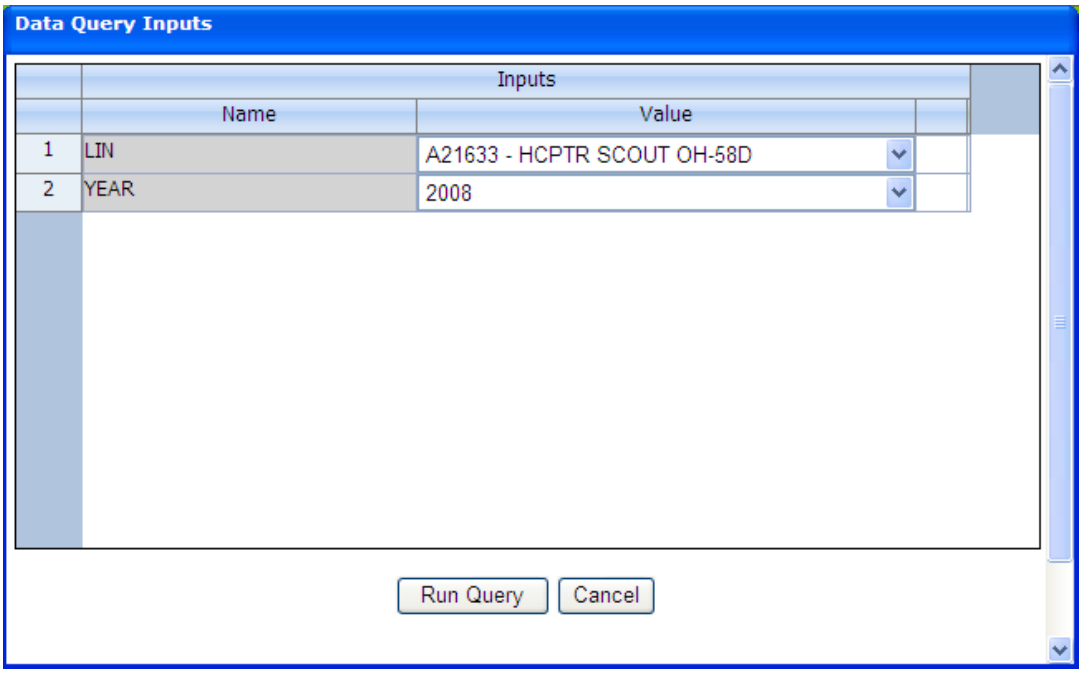

Figure 55: FORCES Cost Factors Handbook Replenishment Cost Data Query Inputs

Figure 56 shows sample FORCES Cost Factors Handbook Replenishment Cost data query results.

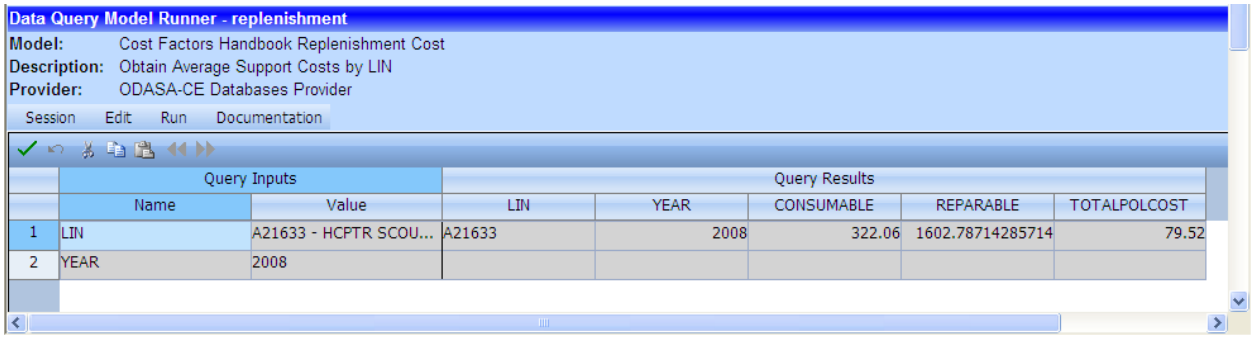

Figure 56: FORCES Cost Factors Handbook Replenishment Cost Data Query Results

LOOKING FOR AND STUDYING EXISTING CERS AND MODELS

A key part in preparing to build a cost estimate or estimating model is locating cost estimating relationships (CERs) that can be used to estimating a portion of the systems WBS. In addition, locating existing estimating models which can be used as part of an estimate can help you jump start the estimate building process. Locating CERs and models can be a time consuming process. JIAT can help streamline this process. In this section we learn how to search for CERs and utilize existing Models stored on the JIAT server.

We cover the following Chapters:

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CHAPTER 7 – SEARCHING CER LIBRARIES FOR RELEVANT CERS

JIAT includes the ability to host CER libraries. CERs can be loaded into JIAT by users with contribution privileges. CER listings can be organized in various libraries. Different user groups can have access to individual libraries. In this Chapter we look at how to search existing CER libraries. In a later section we learn how to create CER libraries and how to post CERs to a library.

Utilizing Existing CERs:

In addition to locating raw data cost estimators and analysts also find to helpful to search for existing CERs that can be used to provide an initial understanding of an element, as a cross check or within a cost estimate. There are three important tasks that an analyst performs when investigating CERs. First, they need to locate a CER, this is often done by reading cost study reports or searching CER libraries. Second, they must study the CER documentation to determine if the CER is relevant. This includes verify that the data used to develop the CER is within the range of what you are trying to estimate and studying the CERs statistics. Finally, it is helpful to run the CER with sample inputs to see how sensitive the CER is to various parameter inputs and to test its outcome with the potential inputs for your system. JIAT is able to assist with all three of these tasks.

Using the CER Runner Provider to search JIAT CER Libraries:

You can search for and run CERs with your own inputs using the CER Runner Provider. You may have access to several JIAT CER libraries each containing a wide variety of CERs. To efficiently look for a CER for a specific subject you can utilize the Search by feature on the JIAT Providers dialog. You can search by four main elements (see Figure 57):

- **Phase** – select from five major phase groups; Pre Development, Development, Production, Operations and Support, and Disposal
- **Subject** – choose from a long list of subjects like Antenna, Sys Eng/Proj Mngmnt, and Tooling
- **Commodity** – select from five commodity types; Missiles, Aviation, Wheel and Tracked Vehicles, Armaments, and C4ISR
- **Domain Type** – select from three types; cost, engineering, and performance

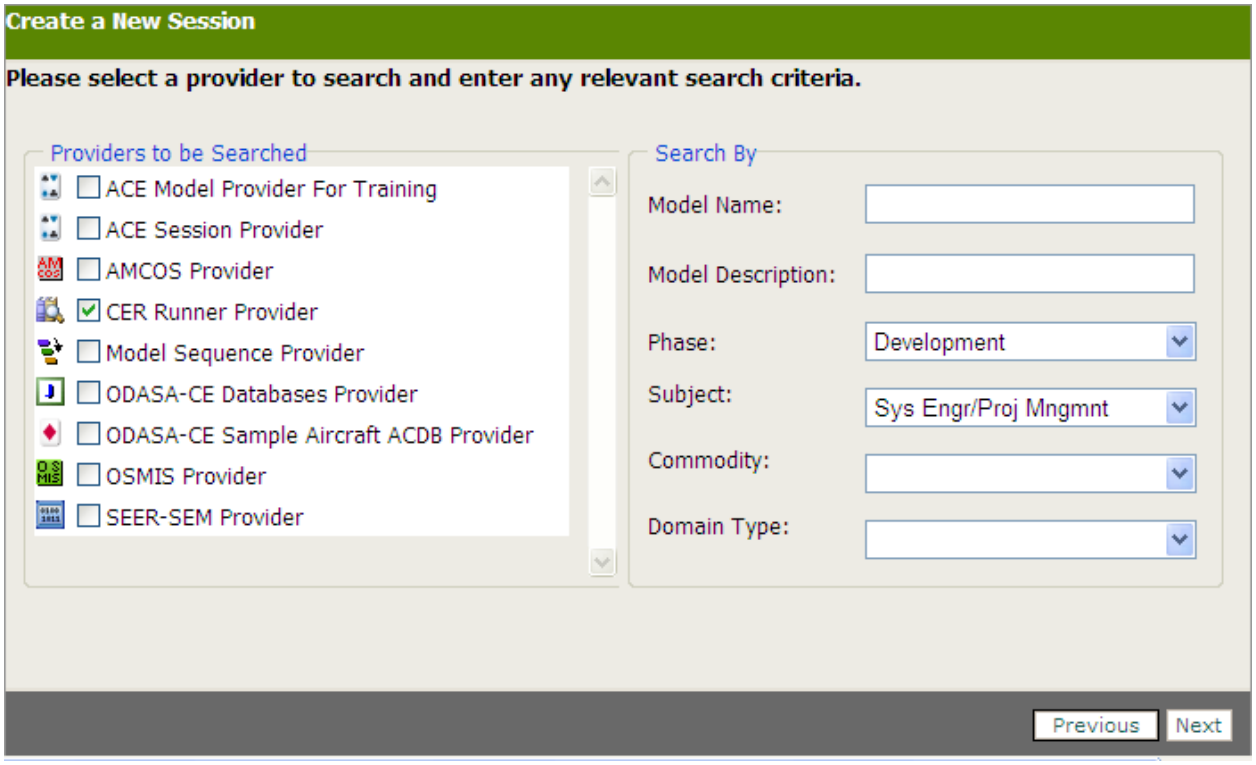

Figure 57: Selecting the CER Runner Provider

JIAT searches the CER Libraries you have access to and returns a list of CERS as shown in Figure 58. If you hover your cursor over the CER Model listing name you can get a tool tip showing the form of the CER or Factor. Full definitions for the CERs or factors can be viewed by pressing the page icons to the left of the Model names. Figure 59 shows an example of a CER definition file. To select a CER to run with inputs from your estimate select the CER and click Next. You will be prompted to select a Model type. The vast majority of the CERs are Non-Time Phased; click Finish to proceed.

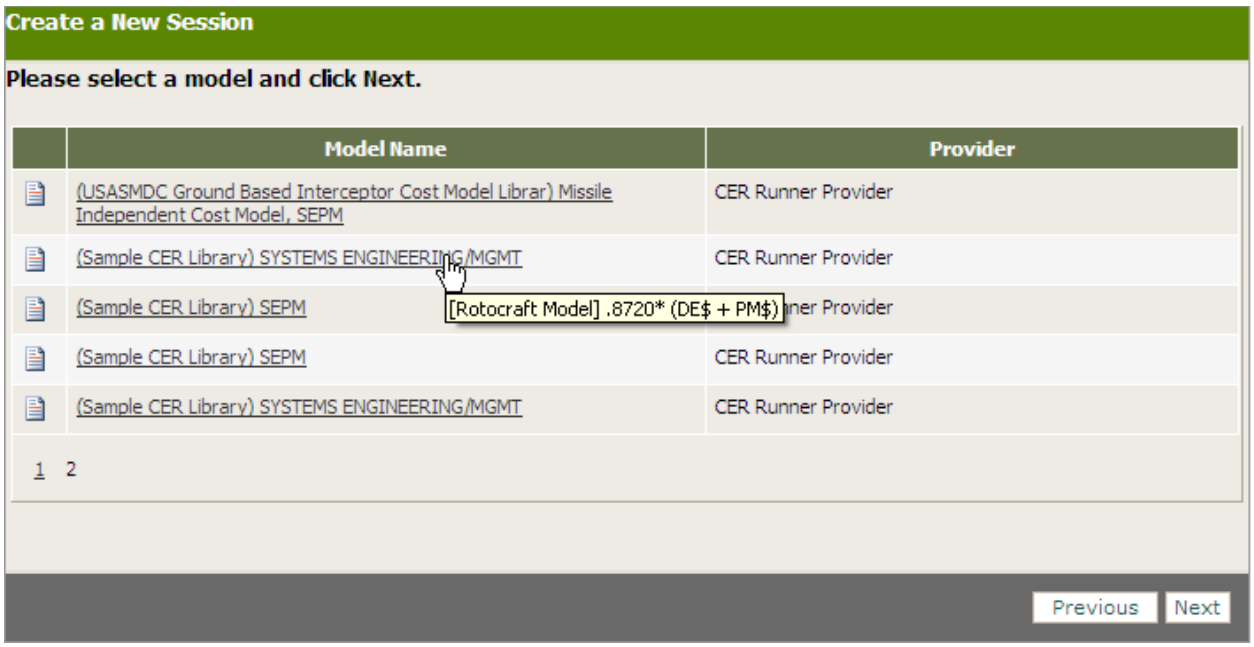

Figure 58: CER Runner Provider CER listing

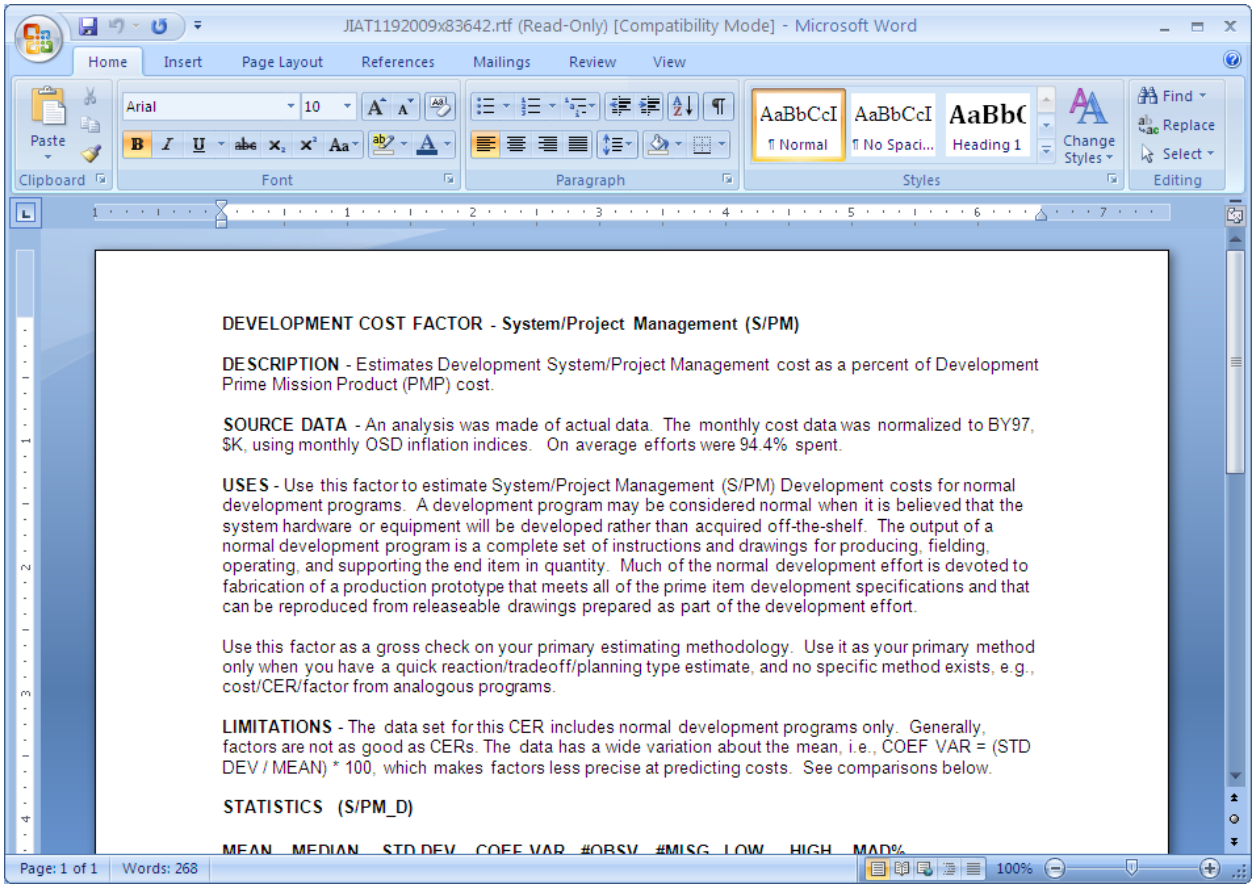

Figure 59: CER Definition Example

All CERs will be displayed in the Common Model Runner Provider interface. Figure 60 shows an example with the SEPM CER selected in Figure 58.

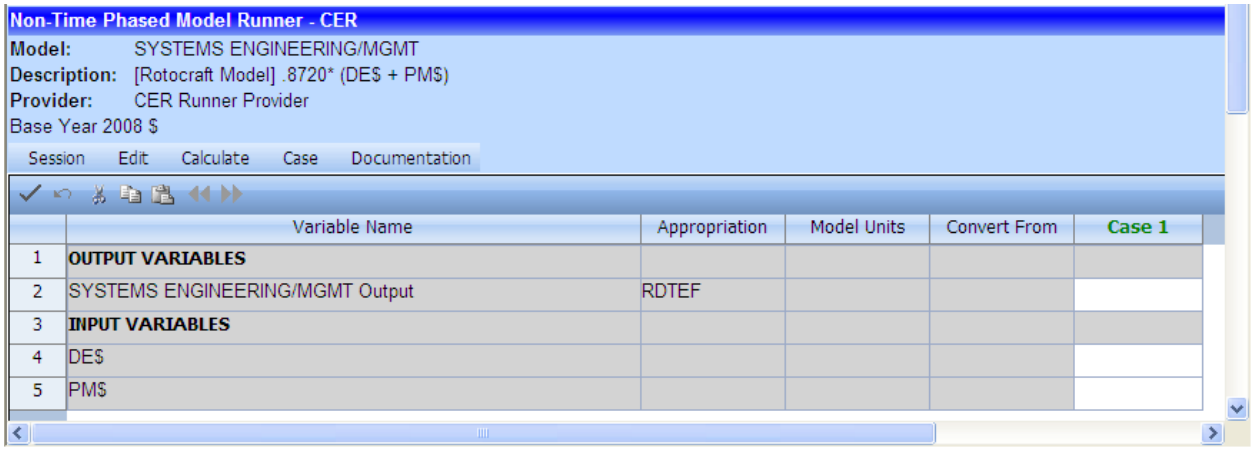

Figure 60: CER Runner Provider Model

Common CER and Model Runner Interface:

There is a common interface that is used for all CERs and models in JIAT. Just like with the data queries you can learn one interface and be able to run CERs and models from any of the Providers like CER library, ACE, SEER-SEM, and True Planning.

The interface shown in Figure 60 consists of four main sections, the Model title, the operation buttons, the Model variables, and the cases.

- **Model title** – list the JIAT session name, the CER or Model name, a CER or Model description, and the JIAT Provider type
- **Operation buttons**– buttons to run the interface; save the session, edit or copy the data to another location, calculate, add case, and enter documentation
- **Model variables** – shows the Model output and input variables and shows the variables parameters like appropriation and Model units
- **Cases** – allows you to enter multiple input values into the CER or model, calculate them and view their results; this also includes a convert from field which allows you to enter the inputs in any units into a Model (JIAT converts the units into the models units during the calculation process)

Running a CER in JIAT:

The basic operation for running a CER in JIAT is to enter CER inputs into the input variable section of the interface, calculate the CER, and then view the CERs results in the output variable section of the interface (see Figure 61). The basic CER running steps are:

- Enter the independent variable values for the CER in the Case 1 column – the input cells will be white
- Select **Calculate> Default Case**
- View results in the output variables rows in the Case 1 column

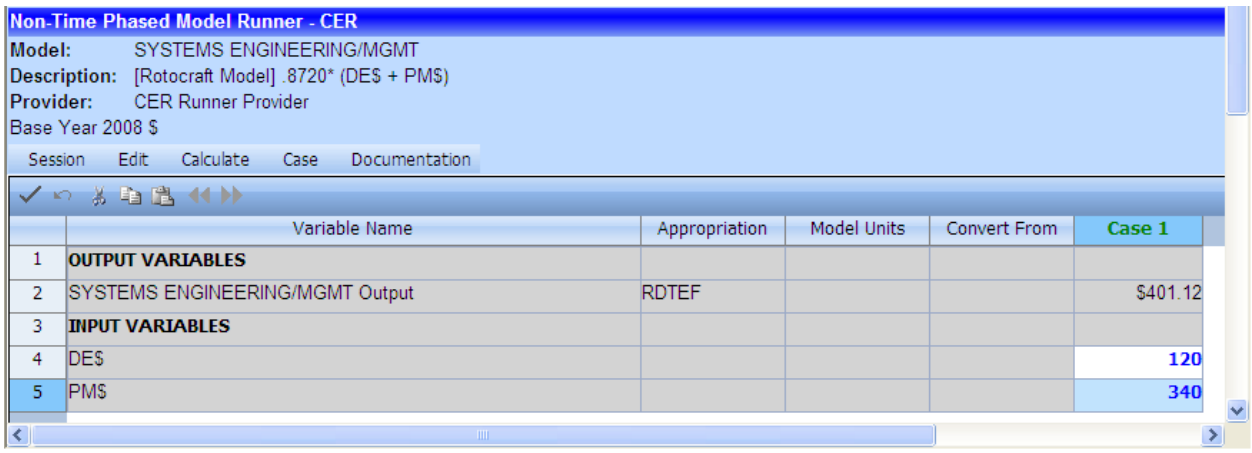

Figure 61: CER Runner Provider Model with Case Inputs and Results

You can study the CER results with different input by creating additional cases and entering different sets of input variables (see Figure 62).

- Add another case by selecting **Case>Add Case**
- Enter a Case name
- Enter input variable values
- Calculate the case with either **Calculate>All Cases** or **Calculate>Selected Cases**
- View results in the output variables rows for the new cases

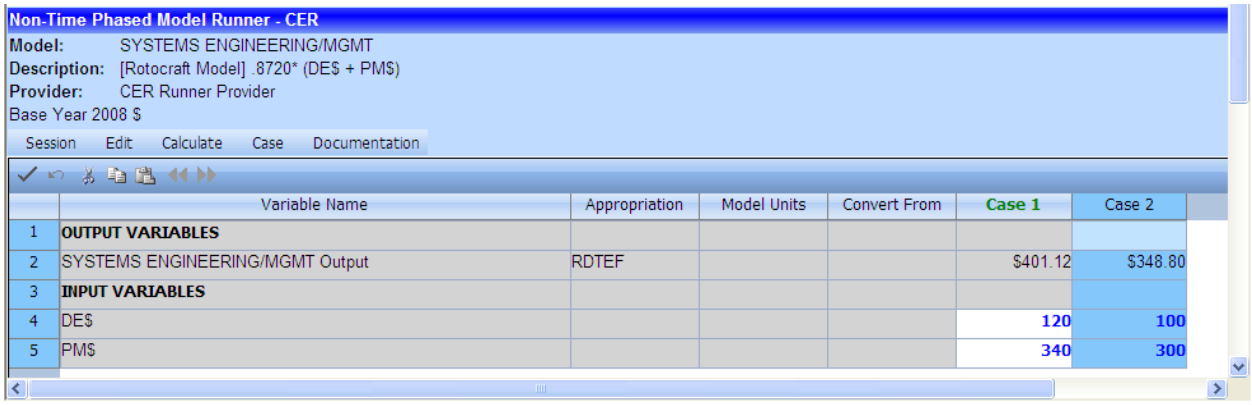

Figure 62: CER Runner Provider Model Multiple Cases

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CHAPTER 8 – BASIC MODEL RUNNING IN JIAT

JIAT allows you to run estimating and engineering models with Model Providers. A Model Provider is software that typically "wraps" the functionality of an existing application (e.g. ACE, SEER, PRICE, etc.) to process Model run requests by the end-user. Examples of Model Providers are the ACE Session Provider and the SEER-SEM Provider. A Common Model Provider interface is used to make it easier for users to work with a wide variety of tools. In this Chapter we will examine the basic options of the Common Model Provider interface and begin to learn how to get the most out of it.

Looking For and Working with Existing Models:

There are potentially three main types of models that you can work with in JIAT; Hardware and Software cost models, engineering design models, and modeling and simulation models.

Working with existing hardware and software cost models can help you:

- Identify potential pre-existing models relevant to your problem solution
- Understand the cost drivers associated with different types of hardware and software estimates
- Provide rough order of magnitude estimates on basic components
- Identify new Provider Applications that can be studied further
- Provide cross checks

Working with existing engineering models can help you:

- Understand the technical characteristics associated with various hardware and software objects
- Understand the trade space for various hardware and software objects
- Calculate cost driver inputs based on technical characteristics

Working with existing modeling and simulation models can help you:

- Model operational and system designs and assess their feasibility
- Model operational and system designs and assess their effectiveness

Common CER and Model Runner Interface:

A common CER and Model Runner interface is used in JIAT. Each CER or Model Provider is rendered in JIAT with the same structure. This provides three main benefits:

- **JIAT Usability** - the JIAT user only needs to learn a single interface to interact with an JIAT hosted Model
- **JIAT Provider Expansion** – the structure makes it easier to add additional Model Providers to the JIAT Server; Models can me mapped into the open architecture
- **JIAT Model Interactions** - the common structure allows for Models of different Providers to be linked together in Model sequences (this is studied in a later Chapter)

The Common Model Runner interface was introduced in Chapter 7 of this course when we looked at running CERs. We look at an example with the SEER-SEM Provider to further examine the Common Model Runner. To work with a SEER-SEM model create a session and select the SEER-SEM Provider as shown in Figure 63. Select Next to View the SEER-SEM models that you have access to.

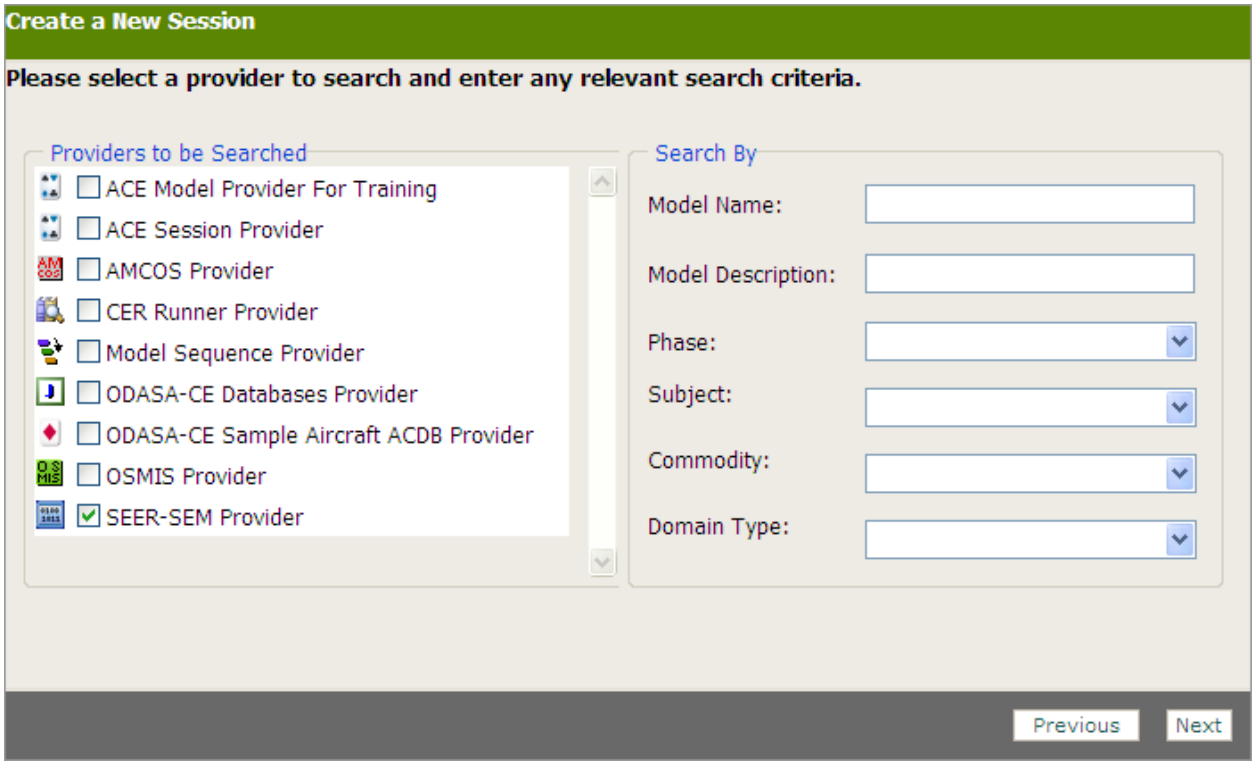


Figure 63: Selecting the SEER-SEM Provider

The Model Provider then shows all the JIAT Models that you have access to. Definitions for each Model are accessed with the page icon to the left of each Model listing. View the documentation to learn about a Model before you run it. To process the Model selection highlight a Model and click Next.

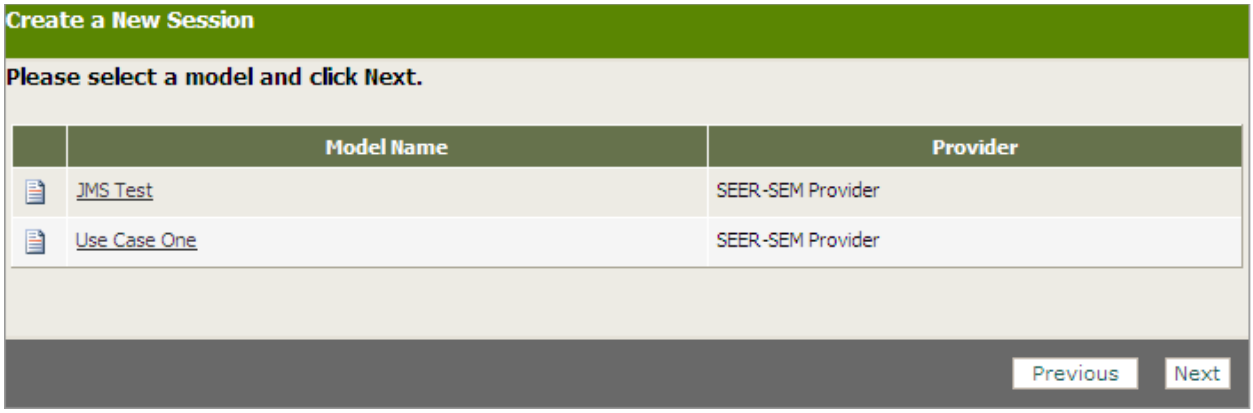


Figure 64: Selecting Models

There are three Model type options available in JIAT; Non-Time Phased, Time Phased and Multiple Run. The majority of Models are Non-Time Phased or standard Models. These Models calculate a single total result. Time phased Models calculate a phased result with results for multiple fiscal years. Multiple Run allows you to run a range or list of inputs thru a Model in a batch mode. We will look at the Multiple Run Model type in a later Chapter. Figure 65 shows the Model type selection dialog.

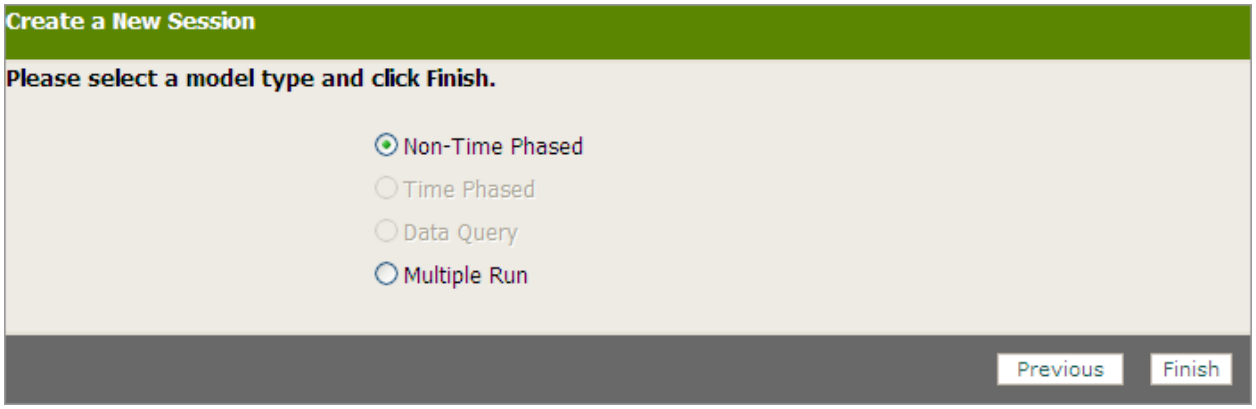


Figure 65: Selecting Model Type

Once the Model and Model type are selected JIAT opens the Common Model Runner and loads in the selected Model. Figure 66 shows an example of the Common Model Runner.

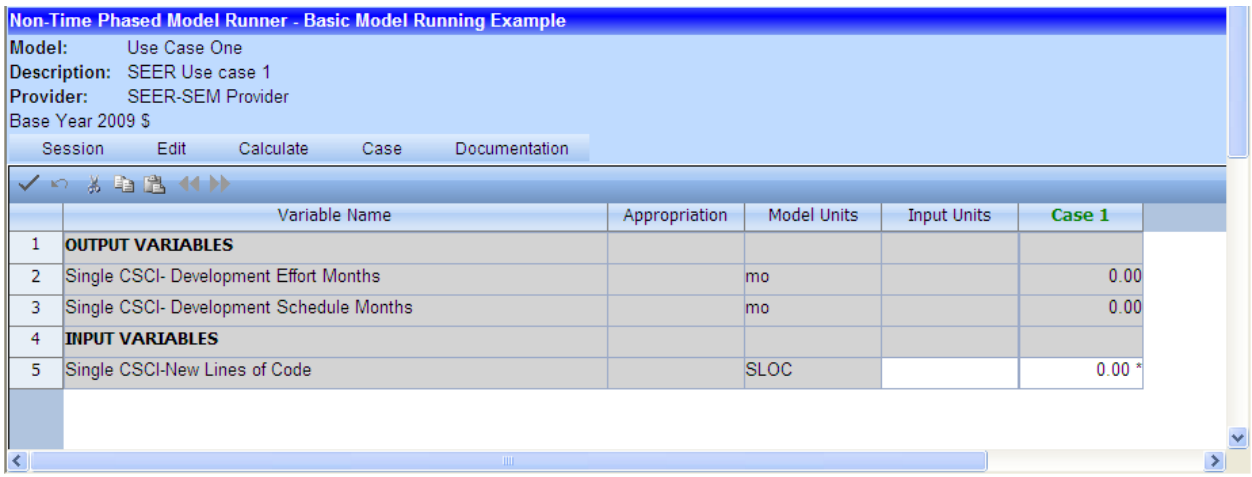


Figure 66: Common Model Runner

As we introduced in Chapter 7 the interface consists of four main sections, the Model title, the operation buttons, the Model variables, and the cases.

Common CER and Model Runner Model Title:

The Model title lists the JIAT Model name, provides a one line Model description, shows the Model Provider and reports the fiscal year and units for the cost results of the Model. In our example (see Figure 67) the Base Year and Units is "Base Year 2009 $"

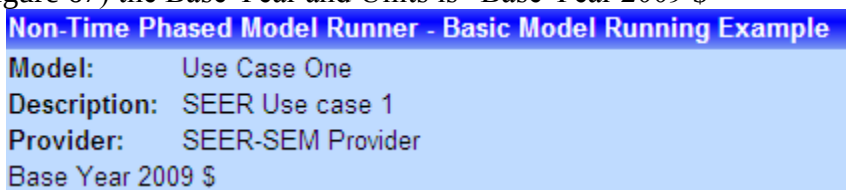


Figure 67: Common Model Runner Model Title Section

Common CER and Model Runner Button Operations:

The operation buttons run the interface. They include drop down menus and icon buttons shown in Figure 68.

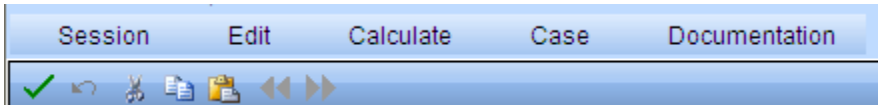


Figure 68: Common Model Runner Button Operation Section

Drop downs:

- **Session** – Save, Save As, and Options (Calculate results in a different Base Year and Units)
- **Edit** – Copy, Cut, Paste, Convert (Converts an input from your source to Model units)
- **Calculate** – Default Case, Selected Cases, and All Cases
- **Case** – Add Case, Insert Case, Delete Case(s), Rename Case, Copy Case and Set Default Case
- **Documentation** – Session Description, Model Definition, Provider Description

Icon Buttons:

 - Update – Updates the data on the screen

 - Undo

 - Cut

 - Copy

 - Paste

 - Arrows – Move right or left if all data is not visible in the viewer

Common CER and Model Runner Model Variables:

Model variables shows the input and output variables for a Model as shown in Figure 69. The outputs variables are listed first followed by the input variables. These lists are specific to the Model. In additional there are row descriptor columns that describe the data in each row of the Model. These include:

- Appropriation – shows the appropriation for rows that contain cost data
- Model Units – shows the units for each rows data; in the example the effort and schedule Months are listed as "mo"

	Variable Name	Appropriation	Model Units
1	**OUTPUT VARIABLES**		
2	Single CSCI- Development Effort Months		mo
3	Single CSCI- Development Schedule Months		mo
4	**INPUT VARIABLES**		
5	Single CSCI-New Lines of Code		SLOC

Figure 69: Common Model Runner Model Variables Section

Common CER and Model Runner Cases:

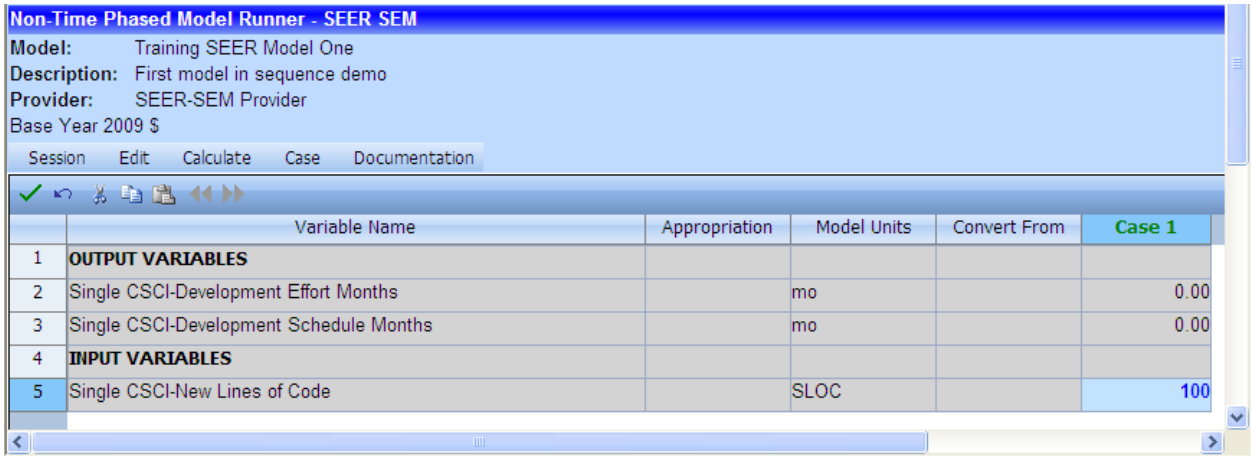
The cases section lists any cases at you create and run with the Model (see Figure 70). In addition it also includes the Input Units column. You can enter new Model inputs into the white cells in this section of the interface. If your inputs for the individual rows are not in the Model units specified you can enter Convert From units and JIAT can convert your input values from the Convert From units to the Model units and then calculate the Model.

Convert From	Case 1	Case 2
	0.00	0.00
	0.00	0.00
	100	0.00 *

Figure 70: Common Model Runner Model Cases Section

Entering Case Inputs:

You can enter values to run thru the Model in the Model input variables. The inputs are passed to the Model on the JIAT server, the JIAT server calculates the Model, and then the JIAT server sends the results back to the JIAT web page. You can enter inputs on any row that has a white case column cell (see Figure 71). These rows were defined to except an input override when the Model was posted to the JIAT server (we will learn how to do this in a later Model). In each white cell simply type the input value; the input automatically appears Blue and Bold. Be sure to check the Model Units for the row to make sure you are entering appropriate inputs. If your input units are different then the Model units you can use the Convert feature discussed later in this section. Once you have entered inputs for all the Input Variables you wish to you can calculate the Model.



	Variable Name	Appropriation	Model Units	Convert From	Case 1
1	**OUTPUT VARIABLES**				
2	Single CSCI-Development Effort Months		mo		0.00
3	Single CSCI-Development Schedule Months		mo		0.00
4	**INPUT VARIABLES**				
5	Single CSCI-New Lines of Code		SLOC		100

Figure 71: Case Inputs

Model Units:

Model units show the units for the rows in the original Model. This helps you understand the results of the output variables rows and the value inputs for the input variables rows. JIAT uses common units codes for all Model Providers. For example, the units for time in months is "mo" and time in hours is "hr". For a full list of the Model units codes see Appendix C of this book.

Converting Input Units:

There are times when the input data that you want to enter into a Model is not the same as the Model units specified on the row. For example you may have a system weight in pound but the Model requires kilograms. This also applies to cost inputs where you have an input cost in one Base Year and the Model inputs are in a different base year. This issue is addressed with JIATs units conversion feature. To be able to convert from units do the following:

- Enter the input value in the case column
- Move to the Convert From column for the row and select **Edit>Convert**
- Enter conversion information in the Convert Units or Convert Cost dialogs (see Figure 72 and Figure 73).
- Press Ok and the units are be entered into the Convert From column

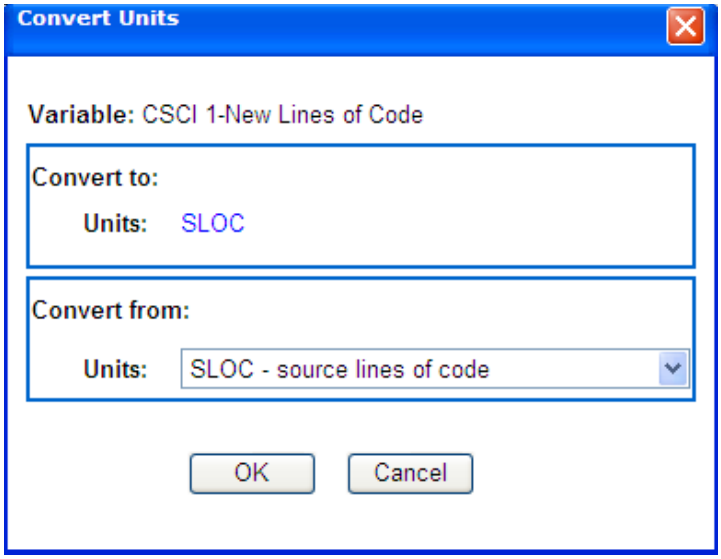


Figure 72: Convert Units

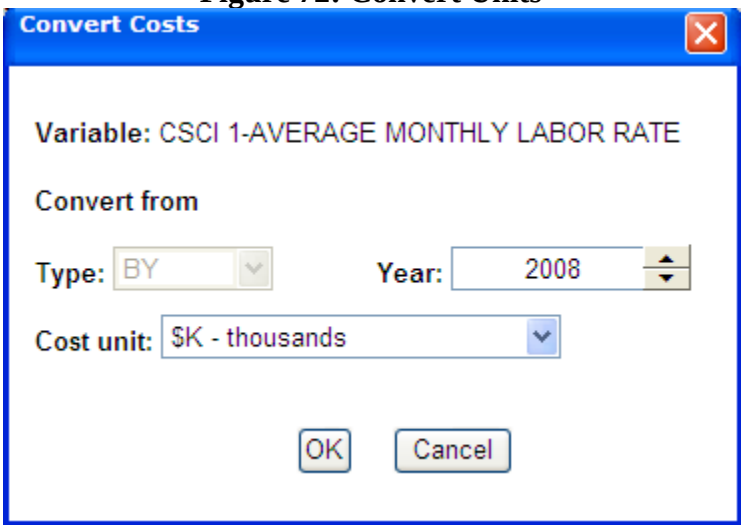


Figure 73: Convert Costs

Calculating a Model:

After you enter Model inputs you can calculate the session to run the Model and view the calculated results. There are three calculation options in JIAT.

- **Default Case** – calculates the default case; for new sessions the default case is "Case 1" you can set a new default case via **Case>Set Default Case**
- **Selected Cases** – calculates only a subset of the cases in the session; you can pick which cases you wish to calculate
- **All Cases** – calculates all the cases in the session

Working with Cases:

You can add, delete, copy, rename, and insert cases from the Case menu. When you add a case you can enter a name for the case. Each case added to the session is added to the right of the last case on the screen. You can insert a Case if you want to add a case in between existing cases. You can delete a case from the session if it is no longer needed and you can rename a case if you wish to change the title for the case column. You can also copy a case to use an existing cases inputs as the basis for a new cases inputs. This is ideal if you have a Model with tens of inputs, you have set up a case with many overrides, and you want to create another case with just one or two input differences.

Calculating in Different Base Years:

All cost Models show the base year for the Model in the Model title section of the interface. If you would like to see the session results in a different Base Year you can change the Base Year and units with **Session>Options**. Figure 74 shows the Session Options dialog.

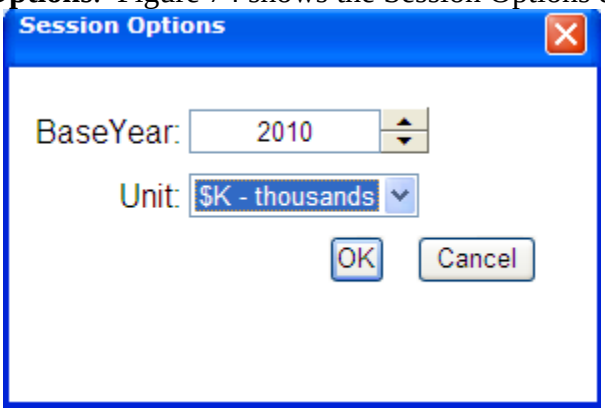


Figure 74: Session Options

Documentation:

There are three documentation items listed in the documentation menu; **Session Documentation**, **Model Definition**, and **Provider Description**. The Session Documentation is a place where you can enter a text description for the JIAT session you are working in. The Model Definition and the Provider Description allows you to view existing documentation on the Model and the Provider.

Saving JIAT Sessions:

You can save a JIAT session so that you can go onto other work and come back to your JIAT session again later. To save a session select **Session>Save** or **Session>Save as**.

CHAPTER 9 – RUNNING ESTIMATING AND ENGINEERING MODELS

One of the areas that JIAT can see a lot of growth in the future is with hosting estimating and engineering Providers. At the time this manual was printed we have SEER-SEM and ACE Providers in the tool and the PRICE True Planning Provider is expected next. In this section we talk about some of the details about working with the specific Providers as well as practice with each of them.

SEER-SEM Provider:

The SEER-SEM Provider allows you to run SEER-SEM models over the JIAT website. Even with the use of the Common Model Runner there are a few unique items about running a SEER-SEM model with the SEER-SEM Provider that are worth noting.

First, SEER-SEM model outputs are a wide variety of elements that typically include cost results, durations in months, and software lines of code (SLOC). In JIAT, the units for each output variable row are shown in the Model Units column. The units are identified by codes. These codes include "mo" for month, "SLOC" for software lines of code, and "SLOC/person mo" for software lines of code per person month. Table 4 thru Table 7 show the most popular unit elements and their codes; a full listing of the codes are provided in Appendix C.

Table 4: JIAT Distance Unit Codes

ELEMENT	CODE
Miles	mi
Meters	m
Kilometers	km
Centimeters	cm
Inches	in
Yards	yd
Nautical miles	nmi

Table 5: JIAT Mass Unit Codes

ELEMENT	CODE
Kilograms	kg
Grams	g
Pounds	lb
Newton	N

Table 6: JIAT Time Unit Codes

ELEMENT	CODE
Seconds	sec
Days	d
Hours	hr
Years	yr
Minutes	min
Weeks	wk
Months	mo

Table 7: JIAT Other Unit Codes

ELEMENT	CODE
Percent	%
Units	unt
Systems	syst
Persons	prsn
Lines of Code	SLOC
Lines of Code per Person Month	SLOC/person mo
Functions	fctn
Functions per Person Month	fctn/person mo
Defects	dfct
Defects per lines of code	dfct/1000 SLOC
Level	lvl

Second, SEER-SEM includes input text list types where the user can pick an input from a defined list. An example of this is the development system experience inputs that provide Model inputs about the experience level of the system development software team. The defined list of inputs is shown in Table 8. These elements are selected in JIAT with drop down lists. To activate the drop downs you must double click the case column input cell.

Table 8: SEER-SEM Example System Experience List

DESCRIPTION	CODE
Extremely High	Ehi
Extremely High -	Ehi-
Very High+	Vhi+
Very High	Vhi
Very High-	Vhi-
High+	Hi+
High	Hi
High-	Hi-
Nom+	Nom+
Nom	Hi
Nom-	Nom-
Low+	Low+
Low	Low
Low-	Low-
Very Low+	Vlo+
Very Low	Vlo
Very Low-	Vlo-

Figure 75 shows both and example with a drop down list.

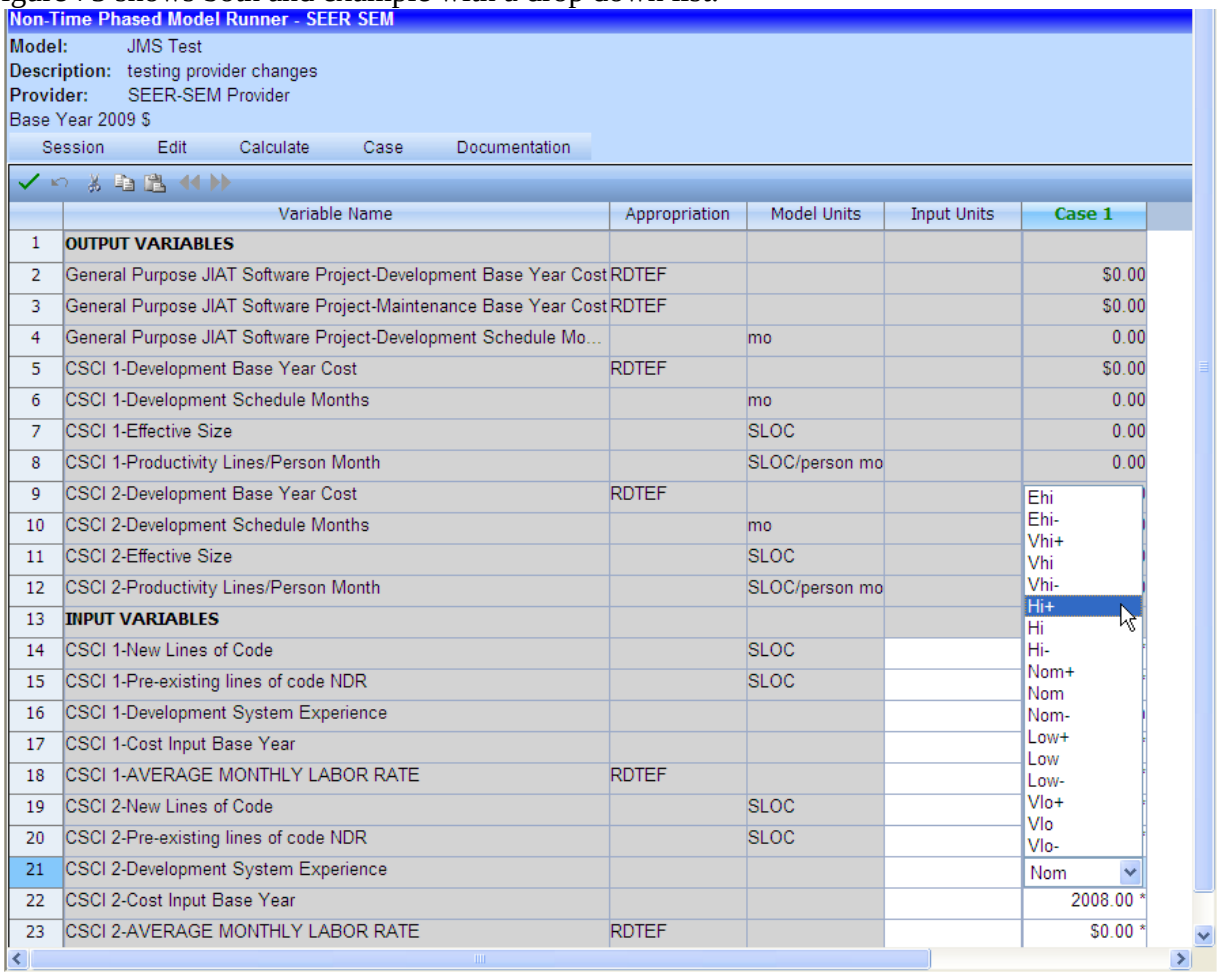


Figure 75: SEER-SEM Model Provider

ACE Provider:

The ACE Provider is the only Model Provider that currently offers Non-Time Phased and Time Phased sessions. You can select how you wish to run an ACE model in the Model type dialog shown in Figure 76.

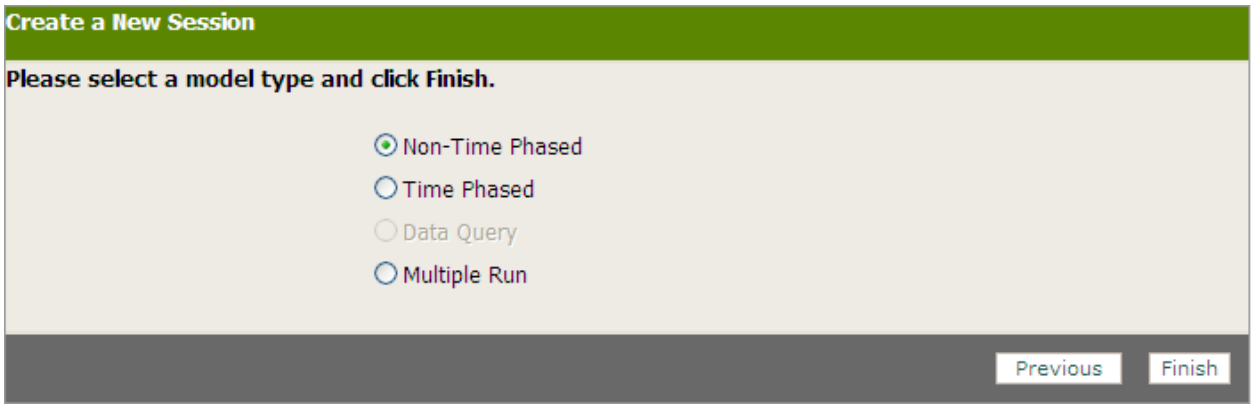
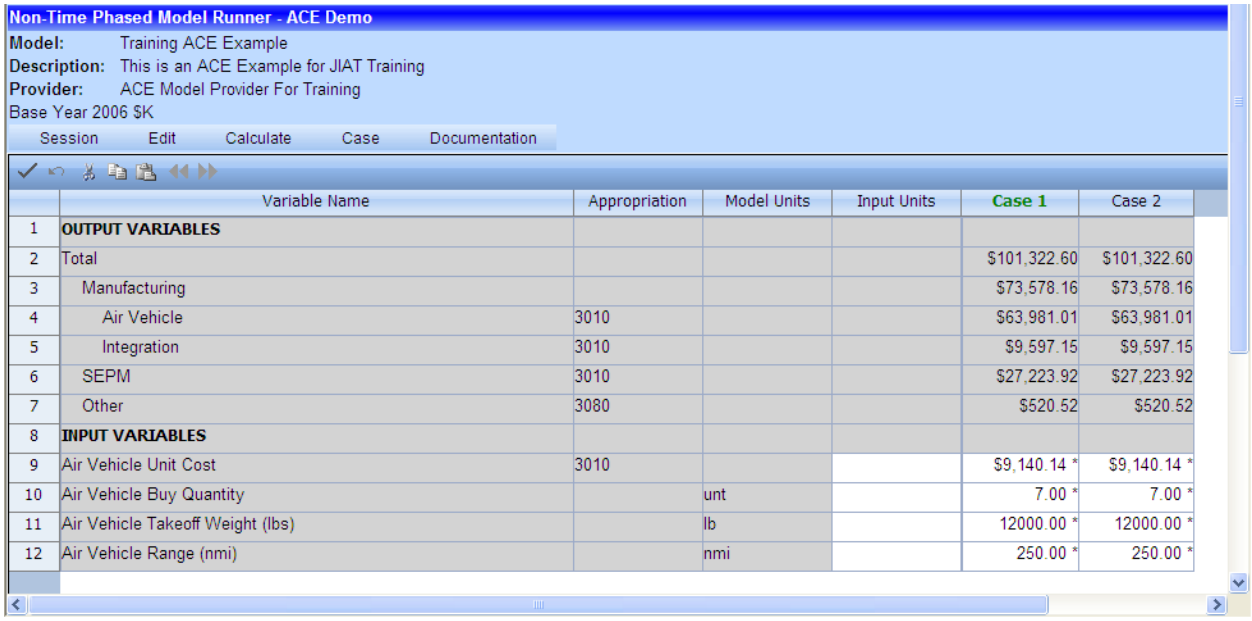


Figure 76: ACE Model Provider Model Types

Figure 77 and Figure 78 show the Non-Time phased and Time Phased versions of the same ACE model. When you use a Non-Time Phased model and override a phased input the value is prorated over the fiscal years in the session. In the example session the buy quantity is time phased. If you were to input a new number for this element you need to be careful about what you enter, an input of 10 will result with a decimal numbers being used for the buy quantities, but a number of 14 will end up doubling the units each year. It is recommended that for time phased inputs you run the model in Time Phased model as shown in Figure 78.

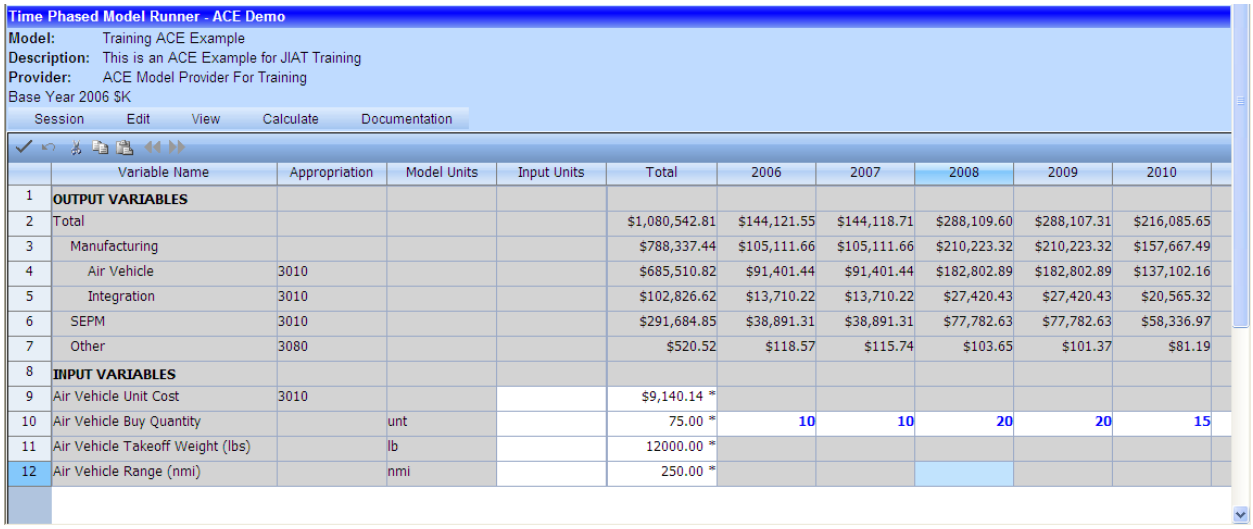


	Variable Name	Appropriation	Model Units	Input Units	Case 1	Case 2
1	**OUTPUT VARIABLES**					
2	Total				$101,322.60	$101,322.60
3	Manufacturing				$73,578.16	$73,578.16
4	Air Vehicle	3010			$63,981.01	$63,981.01
5	Integration	3010			$9,597.15	$9,597.15
6	SEPM	3010			$27,223.92	$27,223.92
7	Other	3080			$520.52	$520.52
8	**INPUT VARIABLES**					
9	Air Vehicle Unit Cost	3010			$9,140.14 *	$9,140.14 *
10	Air Vehicle Buy Quantity		unt		7.00 *	7.00 *
11	Air Vehicle Takeoff Weight (lbs)		lb		12000.00 *	12000.00 *
12	Air Vehicle Range (nmi)		nmi		250.00 *	250.00 *

Figure 77: ACE Model Provider Non-Time Phased Model

Running Models in time phase mode allows you to enter inputs for each fiscal year. Time phased mode can only calculate one case at a time. To set up another set of input values you can create another JIAT session.

You can view Time Phased sessions in both Base Year and Then Year dollars. To Switch to a different cost type, use the **View>Base Year** or **View>Then Year** items. The cost type for the data shown is listed in the Model Title section.



	Variable Name	Appropriation	Model Units	Input Units	Total	2006	2007	2008	2009	2010
1	**OUTPUT VARIABLES**									
2	Total				$1,080,542.81	$144,121.55	$144,118.71	$288,109.60	$288,107.31	$216,085.65
3	Manufacturing				$788,337.44	$105,111.66	$105,111.66	$210,223.32	$210,223.32	$157,667.49
4	Air Vehicle	3010			$685,510.82	$91,401.44	$91,401.44	$182,802.89	$182,802.89	$137,102.16
5	Integration	3010			$102,826.62	$13,710.22	$13,710.22	$27,420.43	$27,420.43	$20,565.32
6	SEPM	3010			$291,684.85	$38,891.31	$38,891.31	$77,782.63	$77,782.63	$58,336.97
7	Other	3080			$520.52	$118.57	$115.74	$103.65	$101.37	$81.19
8	**INPUT VARIABLES**									
9	Air Vehicle Unit Cost	3010			$9,140.14 *					
10	Air Vehicle Buy Quantity		unt		75.00 *	10	10	20	20	15
11	Air Vehicle Takeoff Weight (lbs)		lb		12000.00 *					
12	Air Vehicle Range (nmi)		nmi		250.00 *					

Figure 78: ACE Model Provider Time Phased Model

You can set the model units shown in the example ACE file when an ACE session is prepared to be loaded into JIAT. We show you this process later in the class.

True Planning Provider:

True Planning is another of the initial cost applications that is scheduled to be available as a JIAT Provider. The True Planning interface was not ready at the time this document was published. However, with the Common Model Runner interface and the basic operations of the Model Runner is like the SEER-SEM and ACE interfaces.

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CHAPTER 10 – EXAMINING TRADE SPACE WITH EXISTING MODELS

The purpose of examining a systems trade space is to being to understand how sensitive your model or CER is to varying degrees of cost drive changes. For example if I change the system input weight does that change the cost significantly or only a little. One of the ways that you can begin to look at a systems trade space is to run the Model with various input values. JIAT offers this capability with its Multiple Run feature via the JIAT website. In this section, we learn how to run a Model with the multiple run Model type.

Multiple Run Model Type:

The multiple run Model type is basically a batch run feature. It allows you to enter a list of possible input values and then it runs the session multiple times with each of the values in a list. After it runs the batch it reports the results of each run of the Model. Any of the Model Runner Providers (i.e. SEER-SEM :and ACE:) can perform the multiple run. The multiple run is only operational for Non-Time Phased models. To work with a Model in multiple run mode select the Multiple Run Model type when you create a new JIAT session as shown in Figure 79.

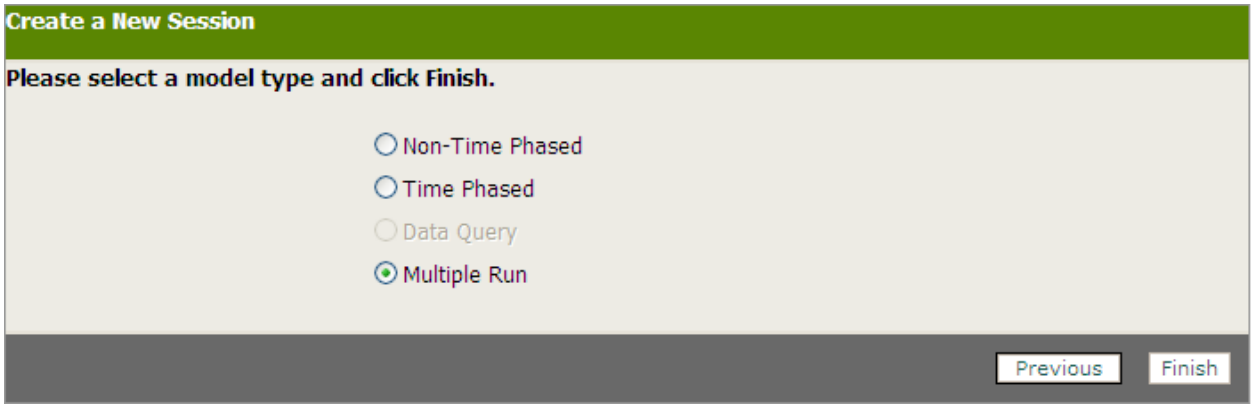


Figure 79: Set Model Type Multiple Run

The Multiple Run Model mode is slightly different than the Non-Time Phased mode. Figure 80 shows an example ACE session using the multiple run Model type. Notice there are no cases in the multiple run mode, instead there are type and input columns.

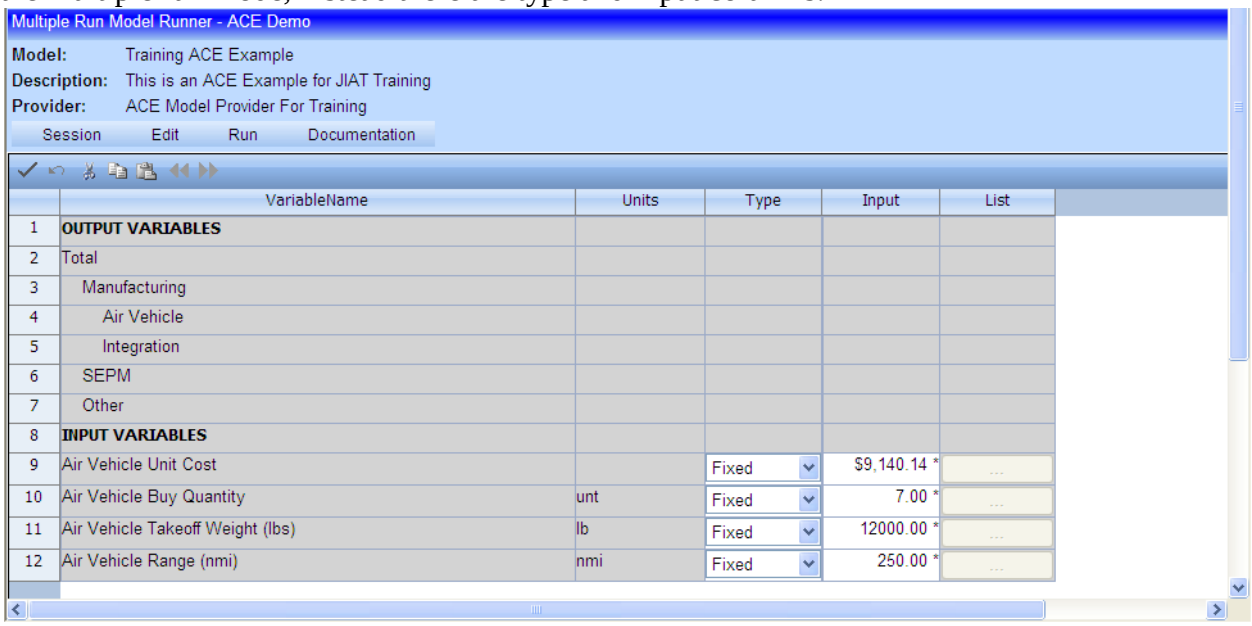


Figure 80: Multiple Run

The main purpose for multiple run sessions are to enter a list of possible inputs for any or all the Input Variables in the Model. For each input variable you can select to enter inputs as Fixed or List (see Figure 81).

- Fixed – you can enter a single input for a variable in the Input column
- List – you can enter a list of up to ten inputs for a variable, to enter the list click in the list button for the row.

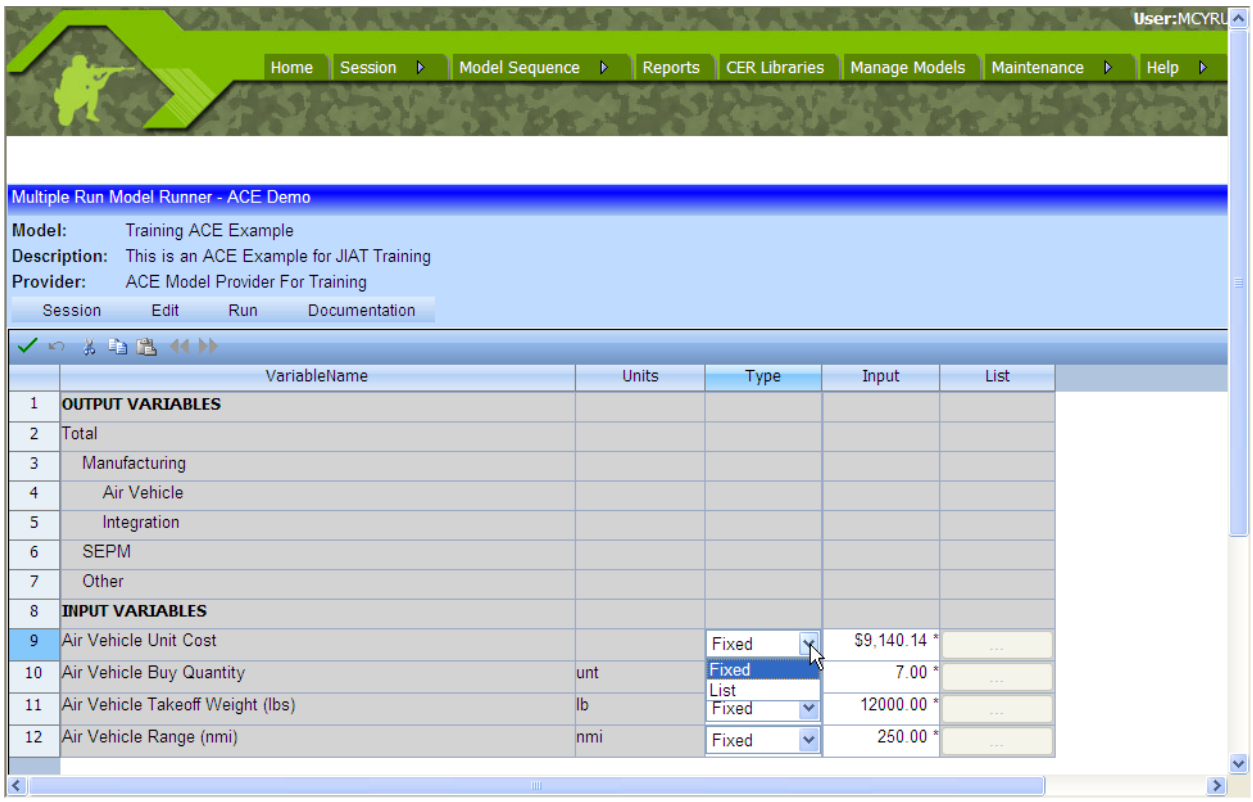


Figure 81: Multiple Run Input Type Selection

Figure 82 shows an example of entering a list of inputs for a Models weight input variable. You can enter up to ten inputs for a variable. To create, review, or update the list of a variable press the list column button. Once a list has been entered the button appears darker.

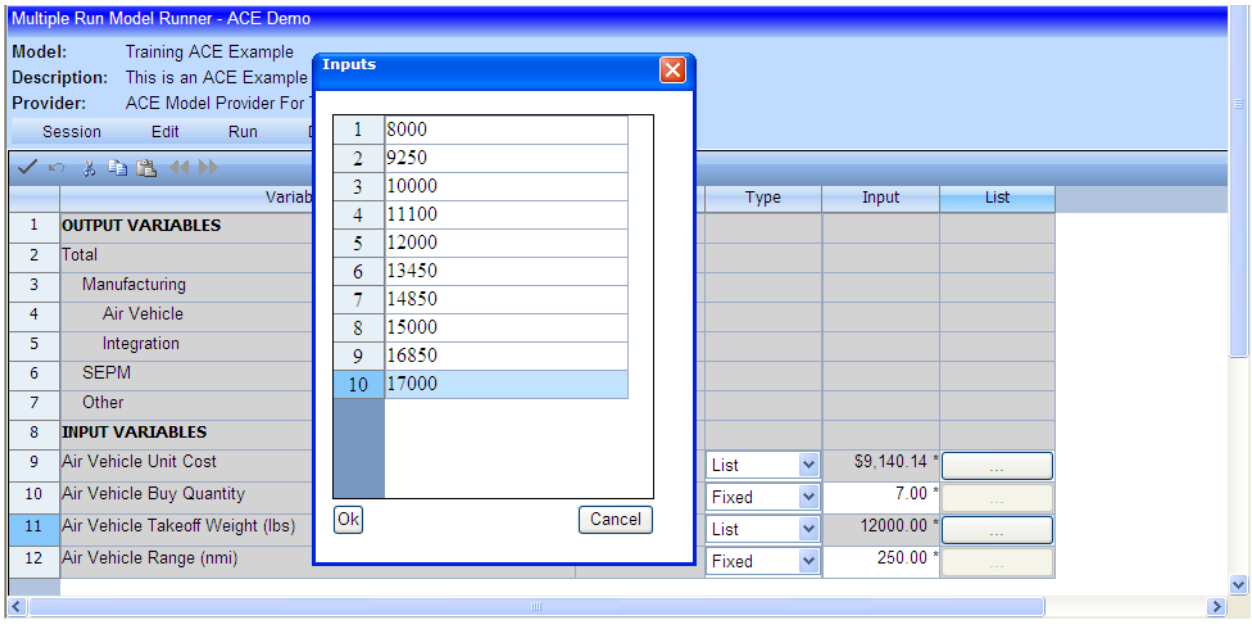
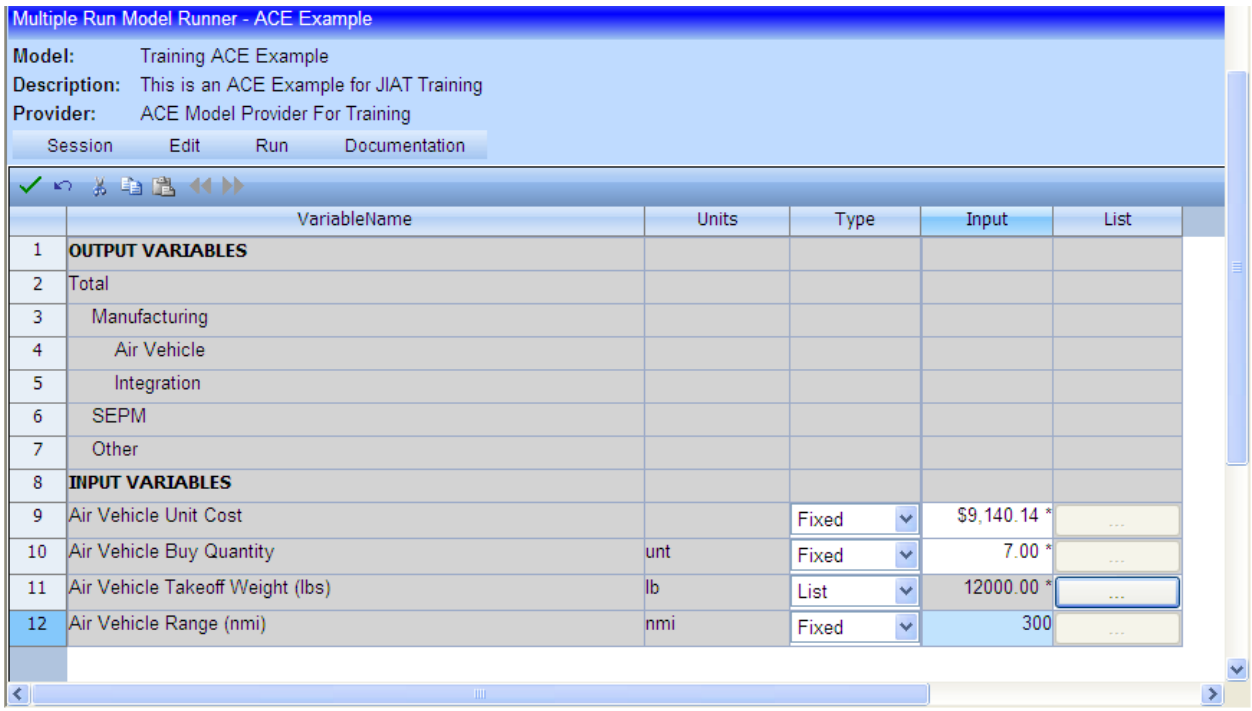


Figure 82: Multiple Run List Inputs

Figure 83 shows an example of entering a single or fixed input for an input variable. In this example we entered 300 for the system range. You can identify fixed inputs because the do not have an asterisk after the input value. When this session runs it will run 10 times with the list items for the weight and the 300 input value for the range.



	VariableName	Units	Type	Input	List
1	**OUTPUT VARIABLES**				
2	Total				
3	Manufacturing				
4	Air Vehicle				
5	Integration				
6	SEPM				
7	Other				
8	**INPUT VARIABLES**				
9	Air Vehicle Unit Cost		Fixed	$9,140.14 *	...
10	Air Vehicle Buy Quantity	unt	Fixed	7.00 *	...
11	Air Vehicle Takeoff Weight (lbs)	lb	List	12000.00 *	...
12	Air Vehicle Range (nmi)	nmi	Fixed	300	...

Figure 83: Multiple Run Fixed Input

After you set the inputs you can calculate the batch by selecting **Run>Batch Calculate**. A batch run is sent to the JIAT server to be submitted for calculation. You can submit several batches to the server quickly and each batch is added to the calculation queue in the order they are received. Figure 84 shows the submission message that indicates the batch was submitted and to look in the queue for its status.

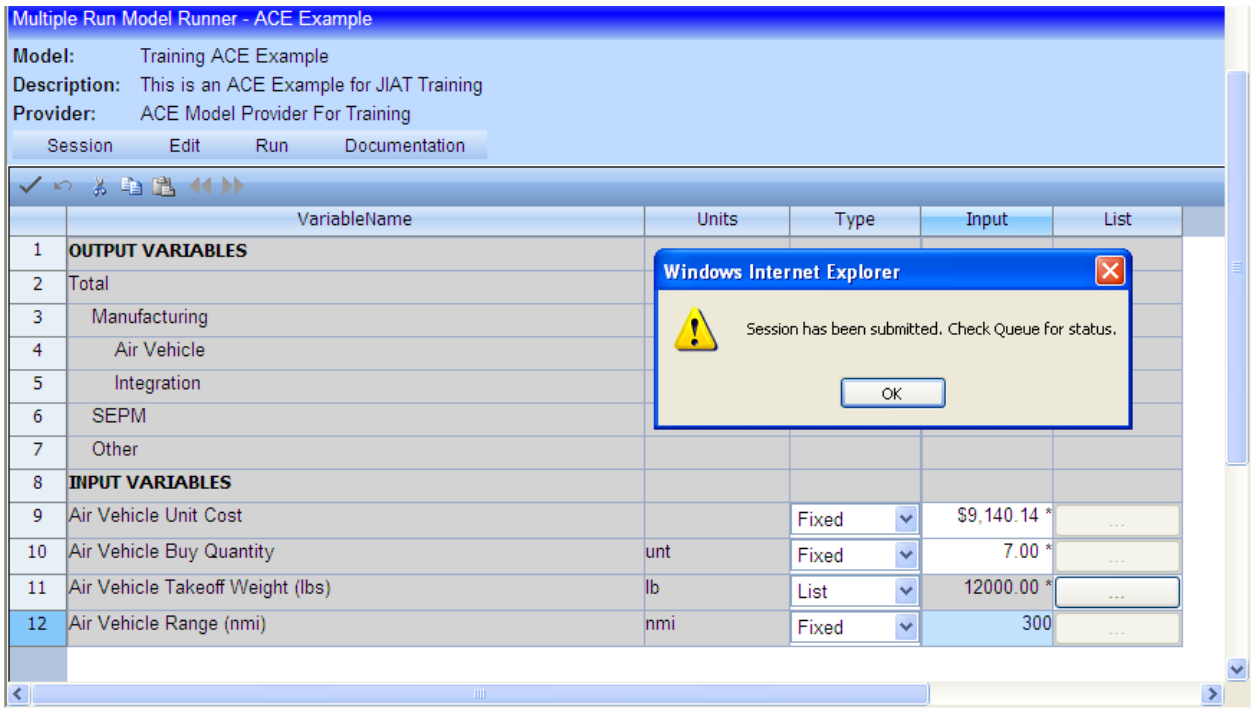


Figure 84: Multiple Run Batch Calculation Submission

To view a sessions run queue select, **Session>Session Run Queue**. The session run queue lists all the multi runs submitted for a session and tells you when the results are available for viewing (see Figure 85). The calculation time of the session can be an indication of how long the multi run batch takes to run. To see the results of the multi run click on the View Results text for each multi run listing. Each multi run is stored on the JIAT server so that you can view it later. You can delete the multi run by pressing the delete X of the multi run listing.

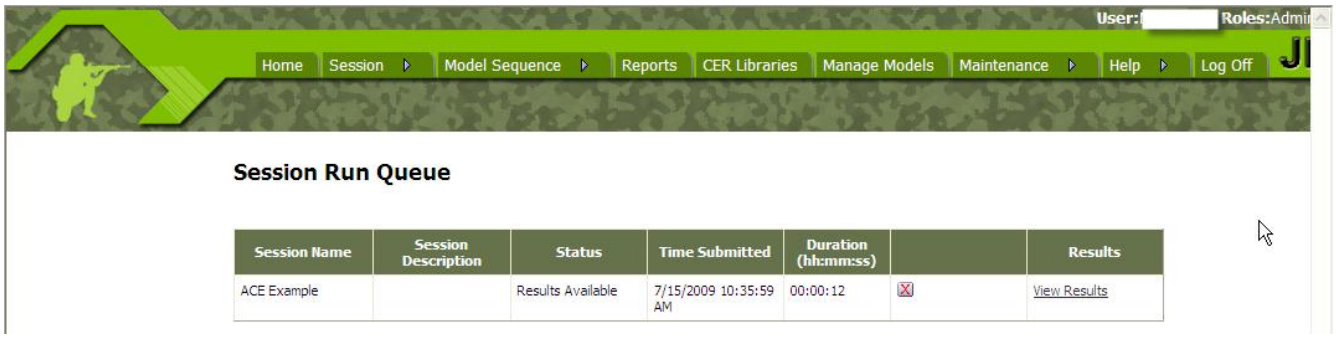


Figure 85: Multiple Run Session Run Queue

Figure 86 shows the results of the multi run batch in a tabular report. The report shows the input settings and outputs for each run in the batch. For the inputs you can see the elements you inputted as list and fixed values. For the outputs you can see the results for each WBS element in the session listed in individual columns.

Results Tabular Report

Session: ACE Example

Export to Excel

	Inputs				Outputs					
Run #	Air Vehicle Unit Cost	Air Vehicle Buy Quantity	Air Vehicle Takeoff Weight (lbs)	Air Vehicle Range (nmi)	Total	Manufacturing	Air Vehicle	Integration	SEPM	Other
1	9135.24667955	7	8000	300	101268.584666115	73538.7357703949	63946.7267568651	9592.00901352976	27209.3322350461	520.516660673599
2	9306.57276853	7	9250	300	103158.054438478	74917.9107867184	65146.0093797552	9771.90140696327	27719.6269910858	520.516660673599
3	9401.09841435	7	10000	300	104200.530523335	75678.8422355194	65807.6889004517	9871.15333506775	28001.1716271422	520.516660673599
4	9530.46706075	7	11100	300	105627.272640227	76720.25983909	66713.2694252956	10006.9904137943	28386.4961404633	520.516660673599
5	9629.27473934	7	12000	300	106716.973123556	77515.661651739	67404.9231754252	10110.7384763138	28680.7948111434	520.516660673599
6	9777.26444175	7	13450	300	108349.077556623	78706.9787561677	68440.8510923198	10266.127663848	29121.5821397821	520.516660673599
7	9909.09550997	7	14850	300	109802.976492426	79768.2188552941	69363.6685698209	10404.5502854731	29514.2409764588	520.516660673599
8	9922.65417887	7	15000	300	109952.508272438	79877.3661399741	69458.5792521514	10418.7868878227	29554.6254717904	520.516660673599
9	10081.9848429	7	16850	300	111709.686500903	81159.9779855689	70573.8939004947	10586.0840850742	30029.1918546605	520.516660673599
10	10094.3122989	7	17000	300	111845.639849519	81259.2140064568	70660.1860925712	10599.0279138857	30065.909182389	520.516660673599

Figure 86: Multiple Run Results Tabular Report

In addition to the tabular report you can also export the multi-run results to Excel. To create the export shown in Figure 87 press the **Export to Excel** button.

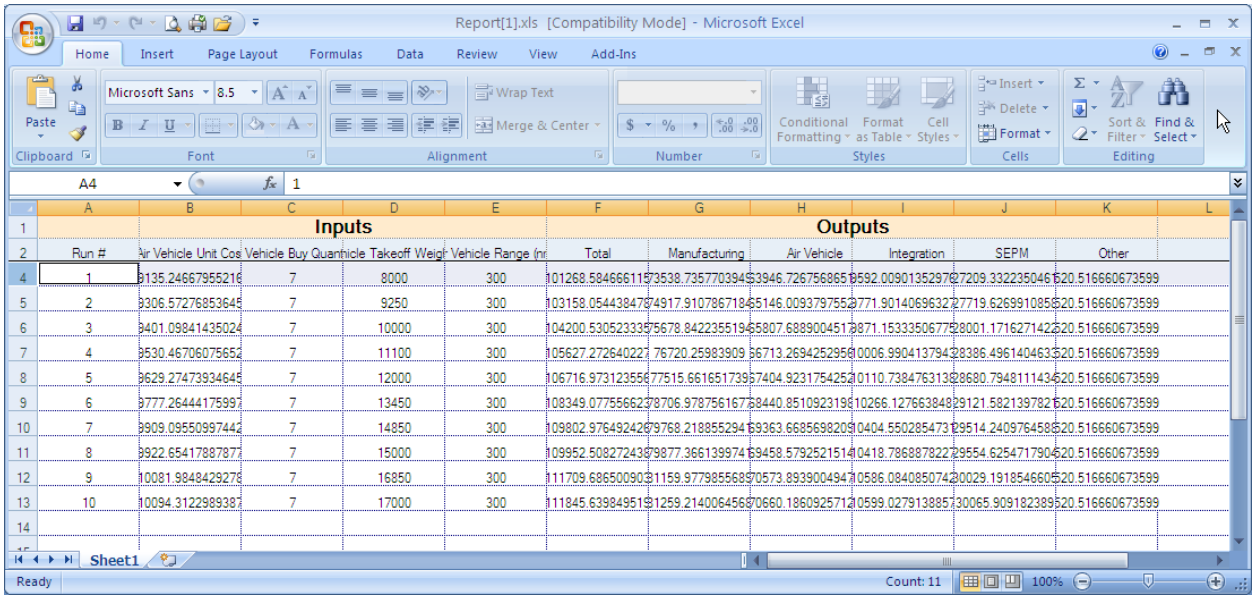


Figure 87: Multiple Run Results Excel Export

BUILDING INTEGRATED ESTIMATNG MODELS WITH THE JIAT CLIENT

You can integrate models, CERs and data hosted on the JIAT system into new cost estimates. In this way you can build models with a modular approach with different sections of the estimate coming from different sources across multiple JIAT Providers. You can integrate estimates using either Excel or ACE. In this section we learn the difference between Excel and ACE hosting integration and the mechanics of integrating estimates.

We cover the following Chapters in this section:

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CHAPTER 11 – USING EXCEL TO INTEGRATE ESTIMATING INFORMATION TO DEVELOP A COST ESTIMATE/MODEL

There are three main types of information that can be integrated into estimating models in JIAT, estimating source data, CERs, and models. Estimating source data is raw data that is directly used in your estimate like labor rates from AMCOS and fuel cost per barrel from FORCES. CERs are cost estimating relationships used as the methodologies of WBS items in your estimate. This may include a SEPM CER where the SEPM cost is 35.6% of the prime mission product cost. Models are single or multi line estimating or engineering models that estimate a portion of your overall cost estimate or parameters of your hardware or software design. A small SEER-SEM model that estimates software costs using inputs like SLOC and development system experience. You can use the JIAT Excel Add in Client to pull data from the JIAT server into any Excel Workbook:. In this section we learn how to use Excel as a platform to build a model with source data, CERs, and models downloaded with JIAT.

Installing the JIAT Desktop Tools:

You need the JIAT Desktop Tools CD to install the JIAT Excel and ACE Clients onto your desktop. With the "JIAT Desktop Tools" CD inserted, browse to D:\setup.exe (where "D" represents your CD drive) and run the setup file. The Installshield Wizard appears (see Figure 88); click Next to continue.

Figure 88: JIAT Installshield Wizard

Accept the default on the JIAT Service Address screen as in Figure 89.

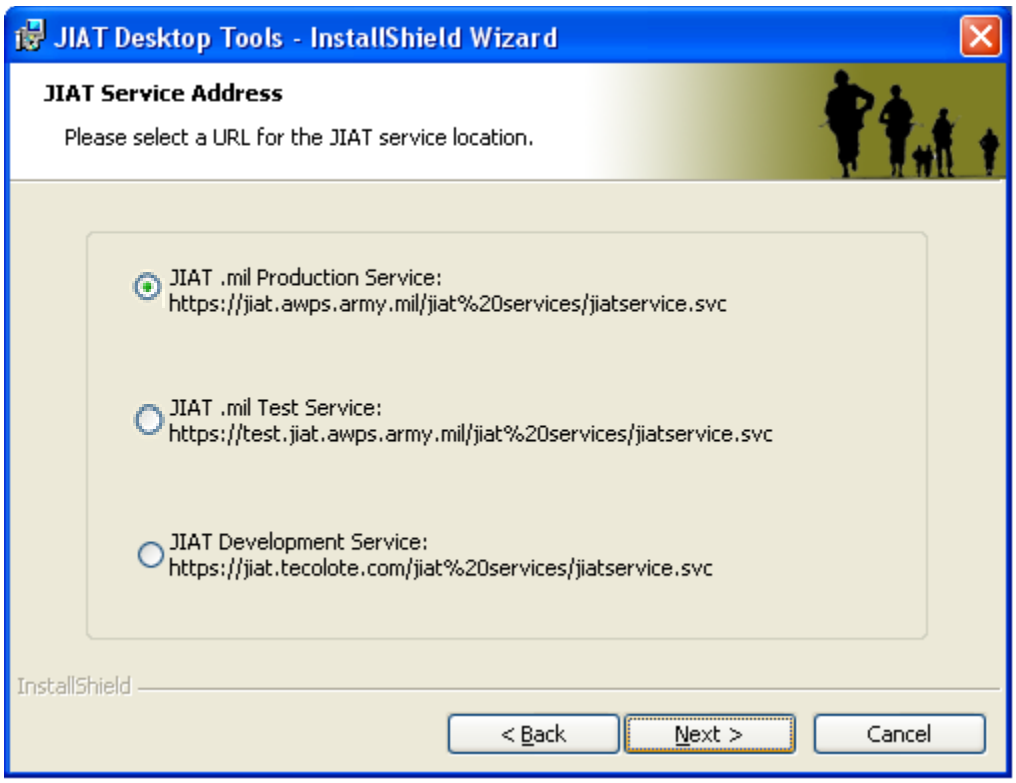


Figure 89: JIAT Service Address

Accept the default on the Destination Folder page (see Figure 90).

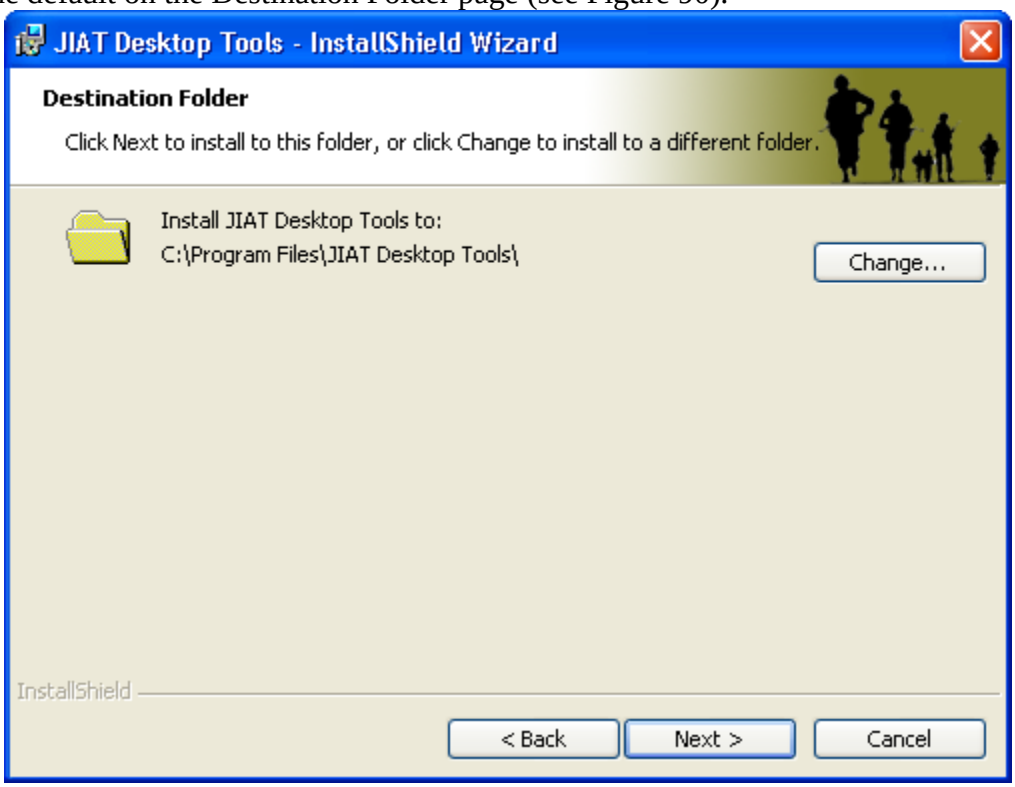


Figure 90: JIAT Destination Folder

Click “Install” on the Ready to Install the Program page as shown in Figure 91.

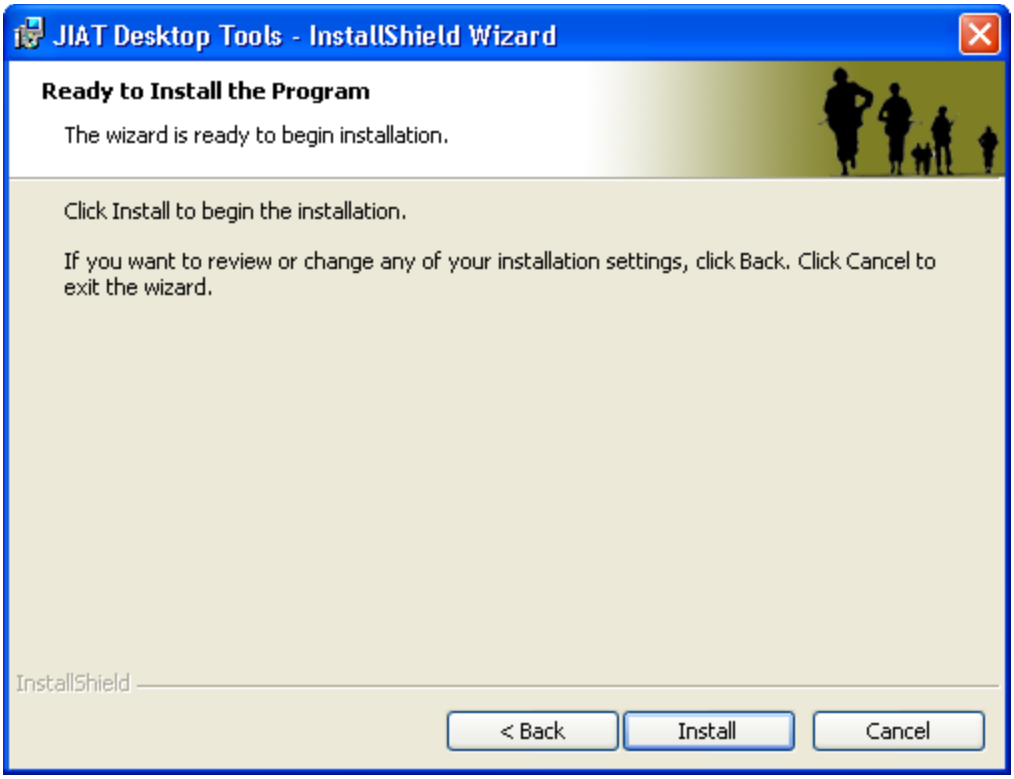


Figure 91: JIAT Ready to Install

Click "Finish" once the installation is complete as shown in Figure 92.

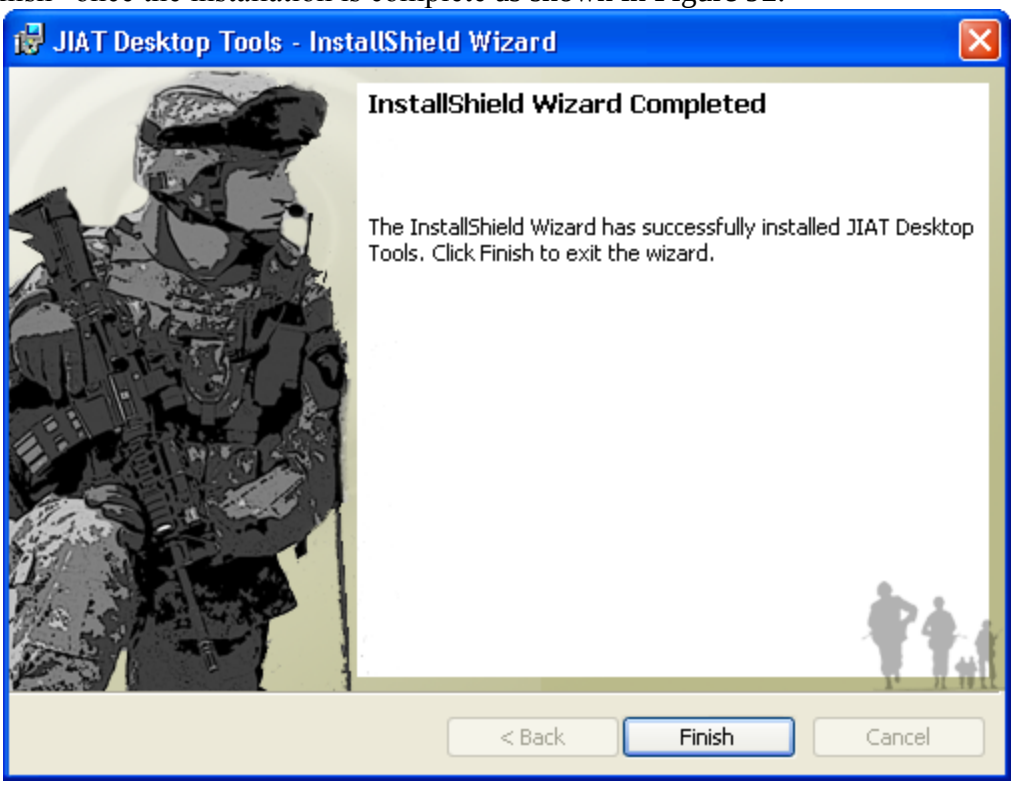


Figure 92: JIAT Finish Install

Uninstalling JIAT Desktop Instructions:

In the Add/Remove Programs dialog, search for "JIAT Desktop Tools" and click "Remove." The JIAT Desktop Tools is removed from your computer.

Running the JIAT Excel Add-in:

The JIAT Excel add-in allows you to bring JIAT content into an Excel workbook. To begin Click **JIAT>Create New**. For Office 2007 the JIAT menu is located under the Add-ins menu.

The JIAT Login dialog appears. Select your CAC and click OK. The add-in opens with the Model Selection page. Select a Provider to search and enter any necessary search criteria. In the Figure 93 the AMCOS Provider is selected.

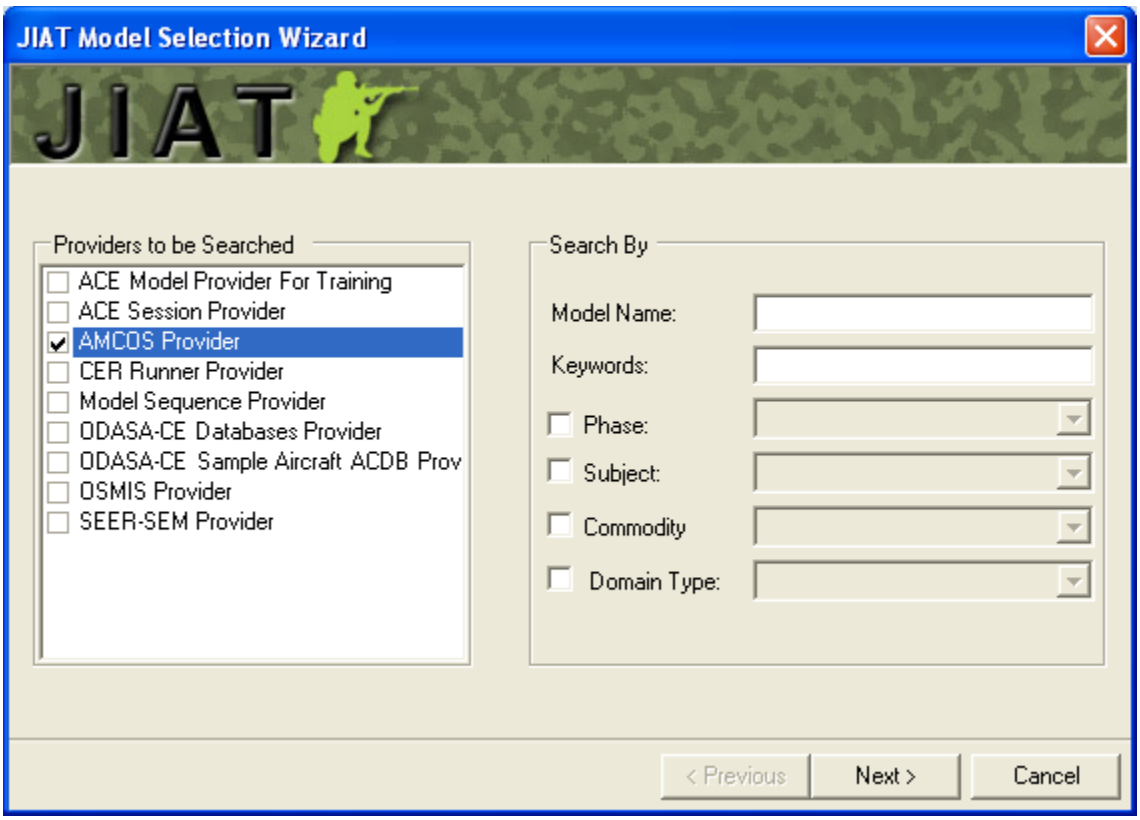


Figure 93: JIAT Excel Model Selection Wizard

On the Model selection page choose a data table to query or a Model to run. Figure 94 shows the data query options for AMCOS and Figure 95 shows some SEER-SEM models that can be selected.

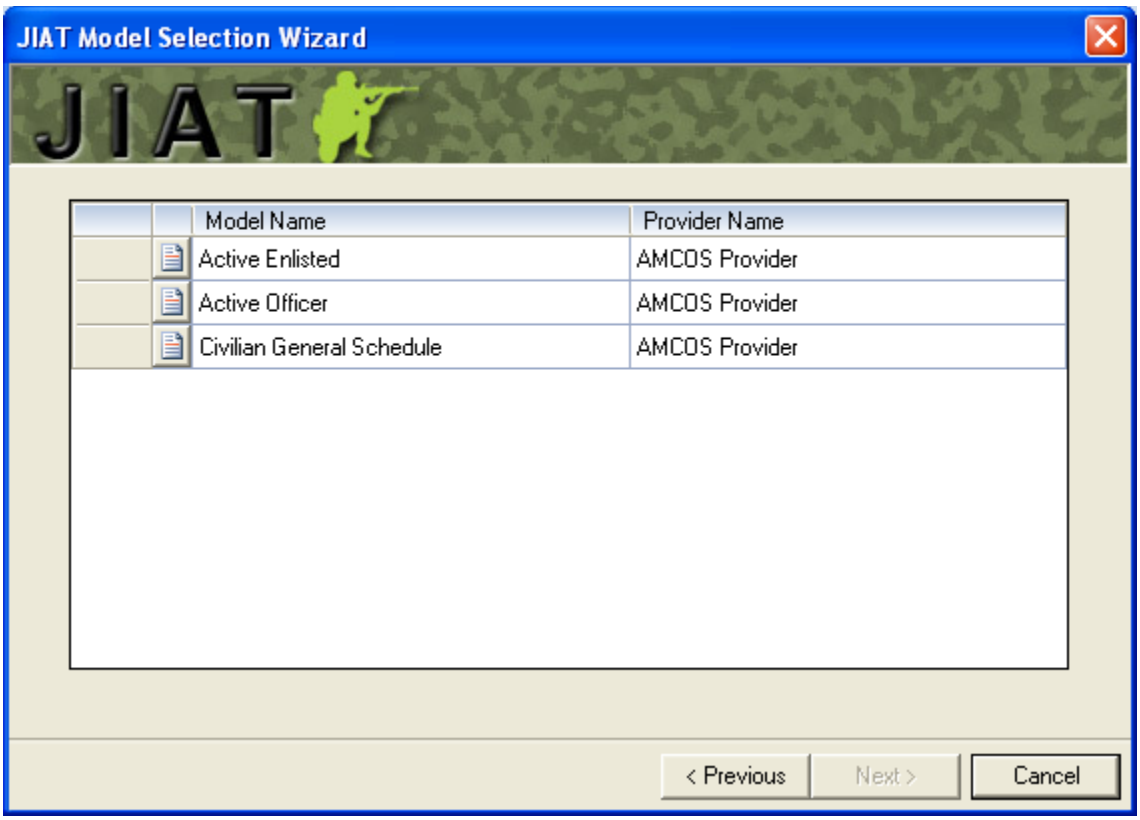


Figure 94: Excel AMCOS Data Table Query Selection

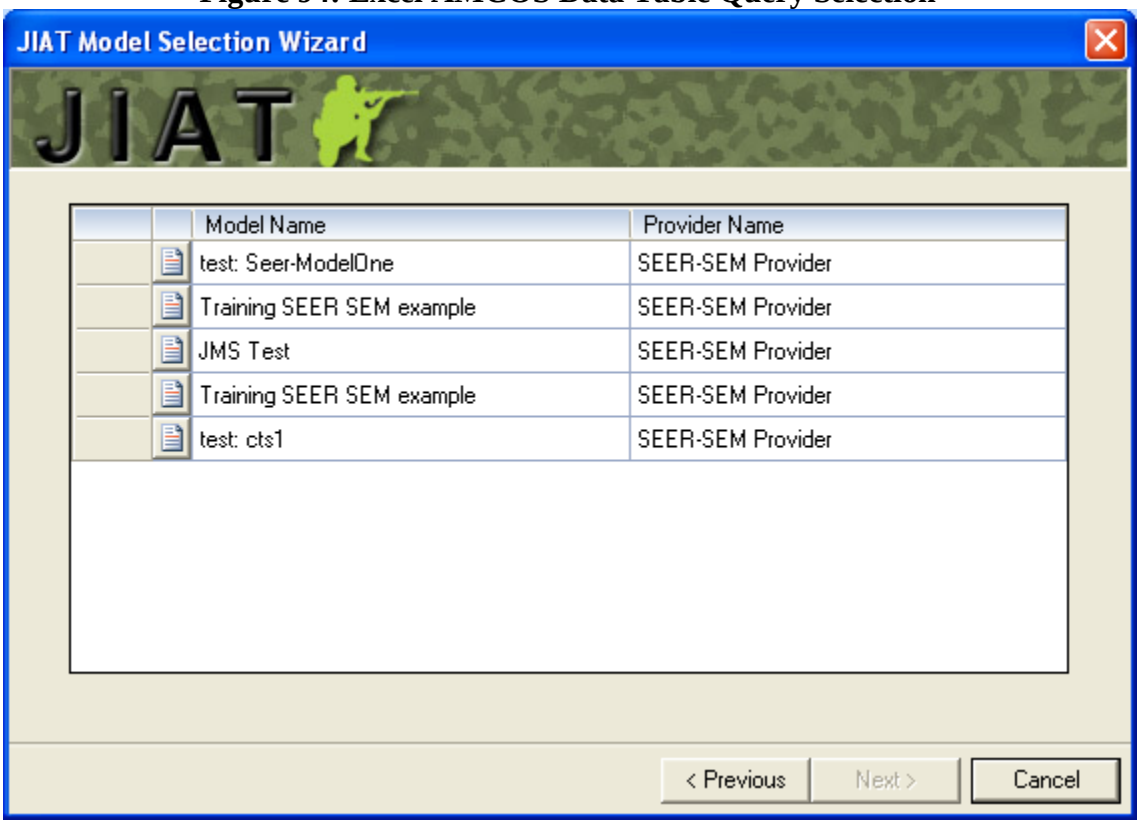


Figure 95: Excel SEER-SEM Model Selection:

Running Data Queries in the JIAT Excel Add-in:

From Excel JIAT can run the JIAT data queries to pull data into Excel where it can be analyzed or integrated into other analyses and estimates. The data query interface is very similar to that with the web browser. In general to run a data queries:

- Select **Add-in>JIAT>Run>Query** (see Figure 96)
- For the Data Query items select values for each of the elements (see Figure 97)
- Run the Query
- View the Query Results in the Excel Worksheet (See Figure 98)

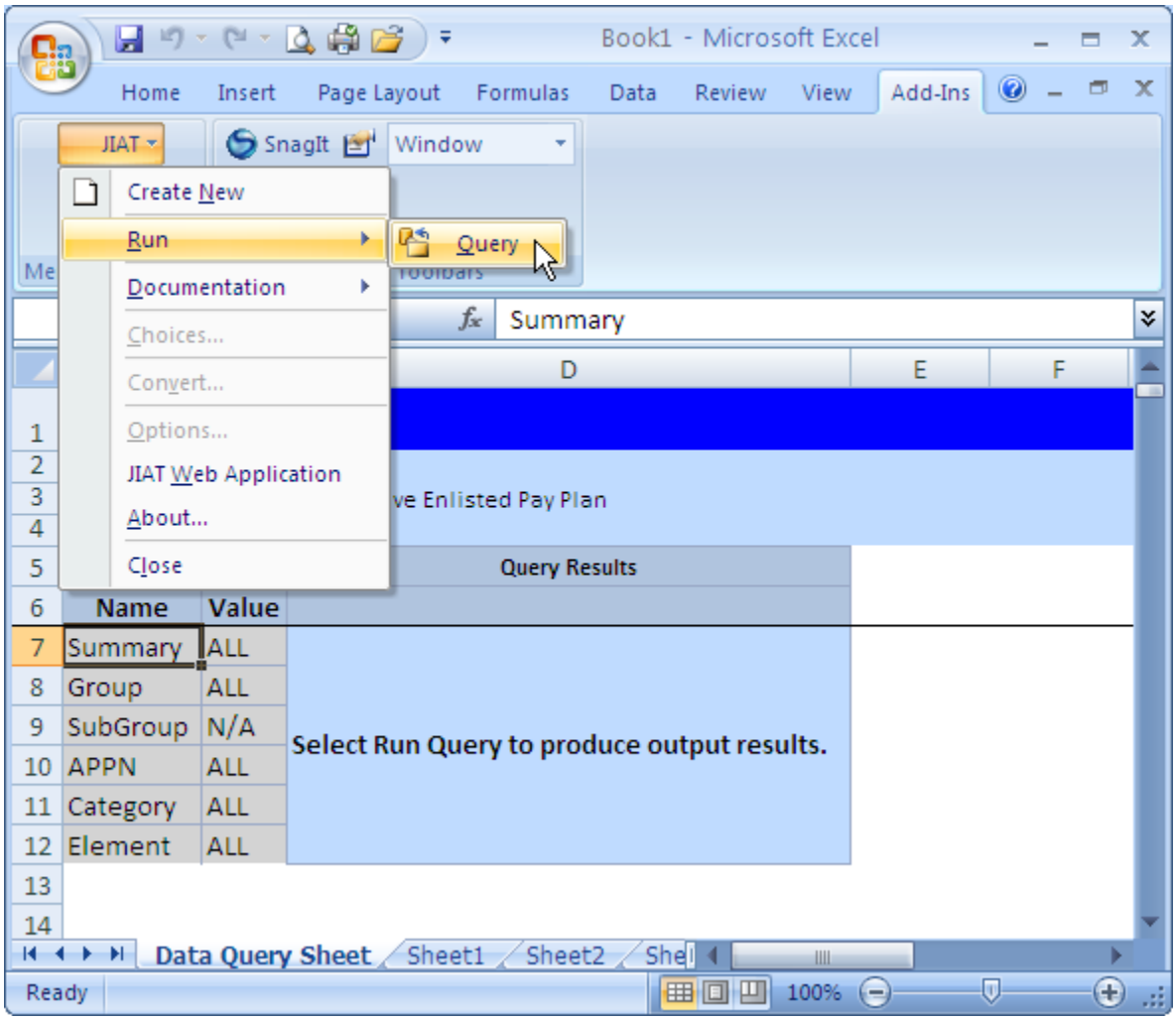


Figure 96: JIAT Excel Run Data Query

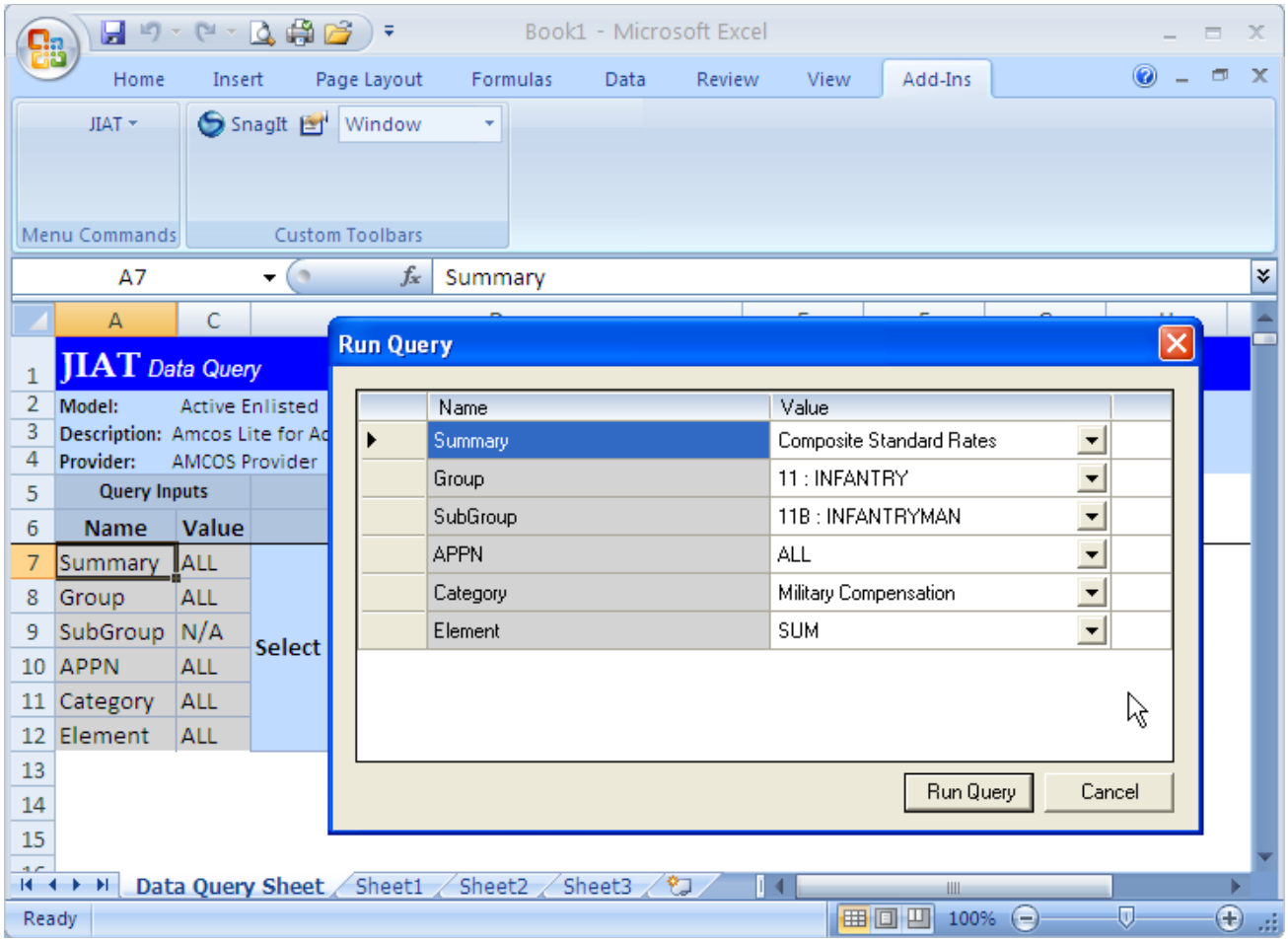


Figure 97: JIAT Excel Run Query Selection

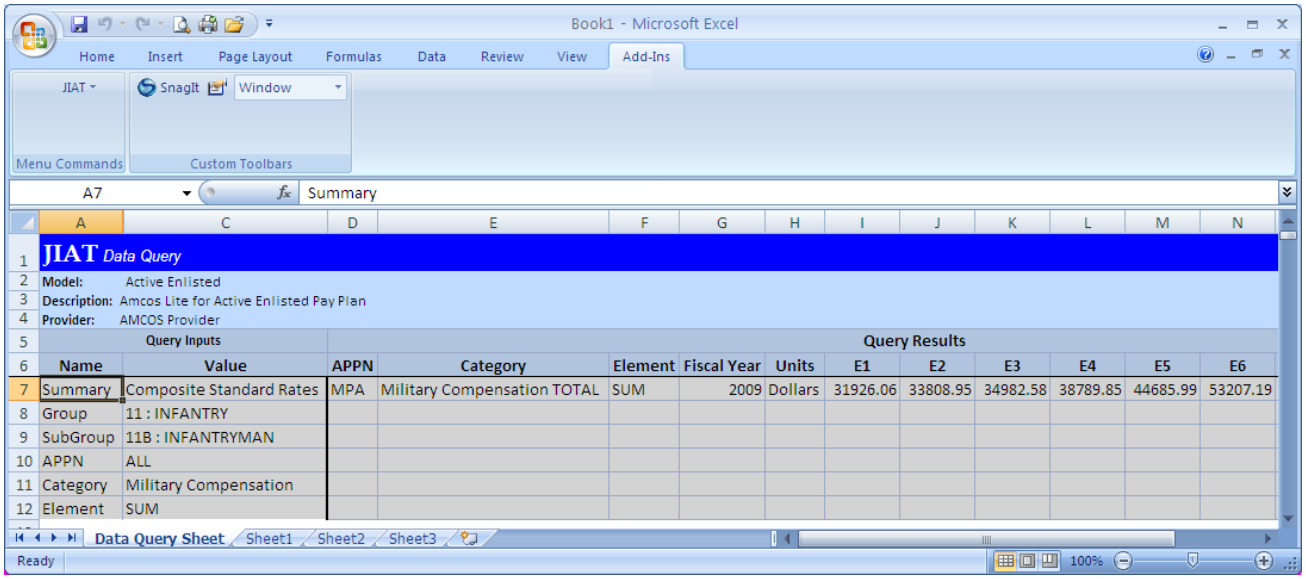


Figure 98: JIAT Excel Run Query Results

Running Models in the JIAT Excel Add-in:

JIAT can use the Model Runner Providers (i.e. ACE and SEER-SEM:, etc.) to run JIAT hosted models from within Excel. Figure 99 shows the SEER-SEM Model Runner in the Excel environment. Again the Excel interface is similar to the web browser.

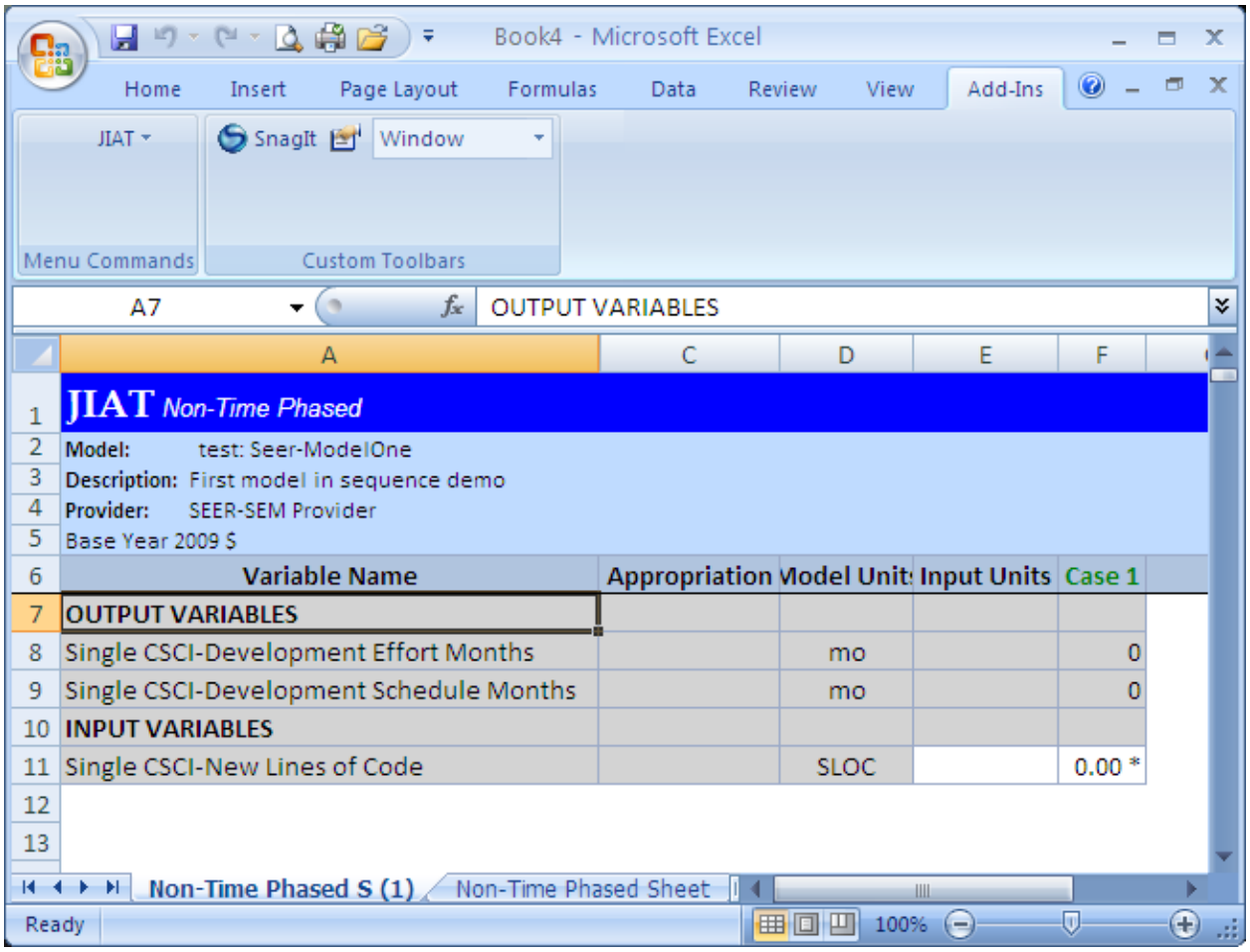


Figure 99: JIAT Excel SEER-SEM Model Runner

As in the browser you can add cases, enter input values, and calculate results. Create cases and calculate results with the **JIAT>Calculate** and **Cases** menu items. Figure 100 shows the JIAT menu options. You can save your work by saving the Excel workbook.

A menu item unique to the JIAT Excel Add in is the Relink Model feature. This menu item is designed to help when opening existing JIAT Excel worksheets. It allows you to reconnect an Excel JIAT sheet to a model hosted on the JIAT server.

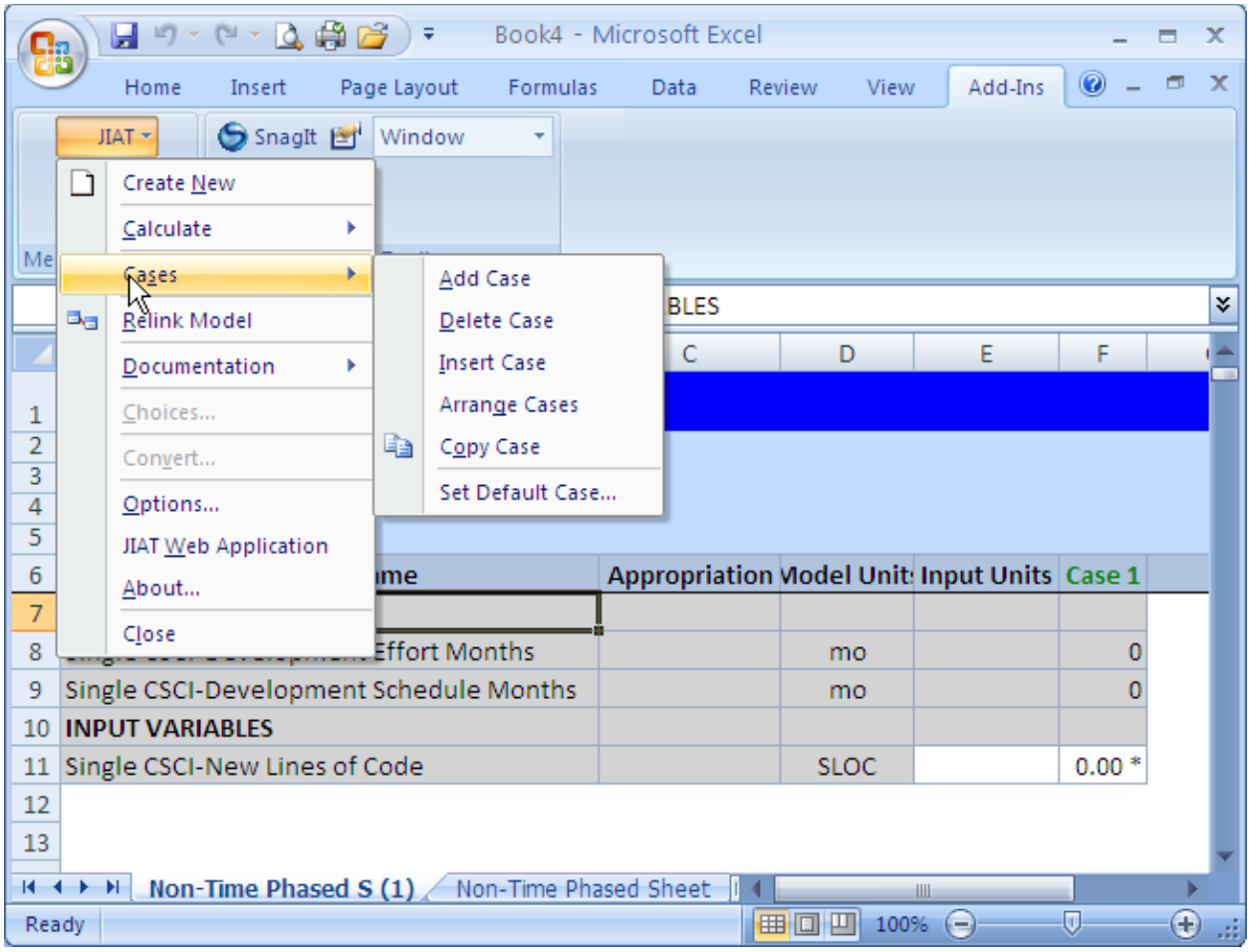
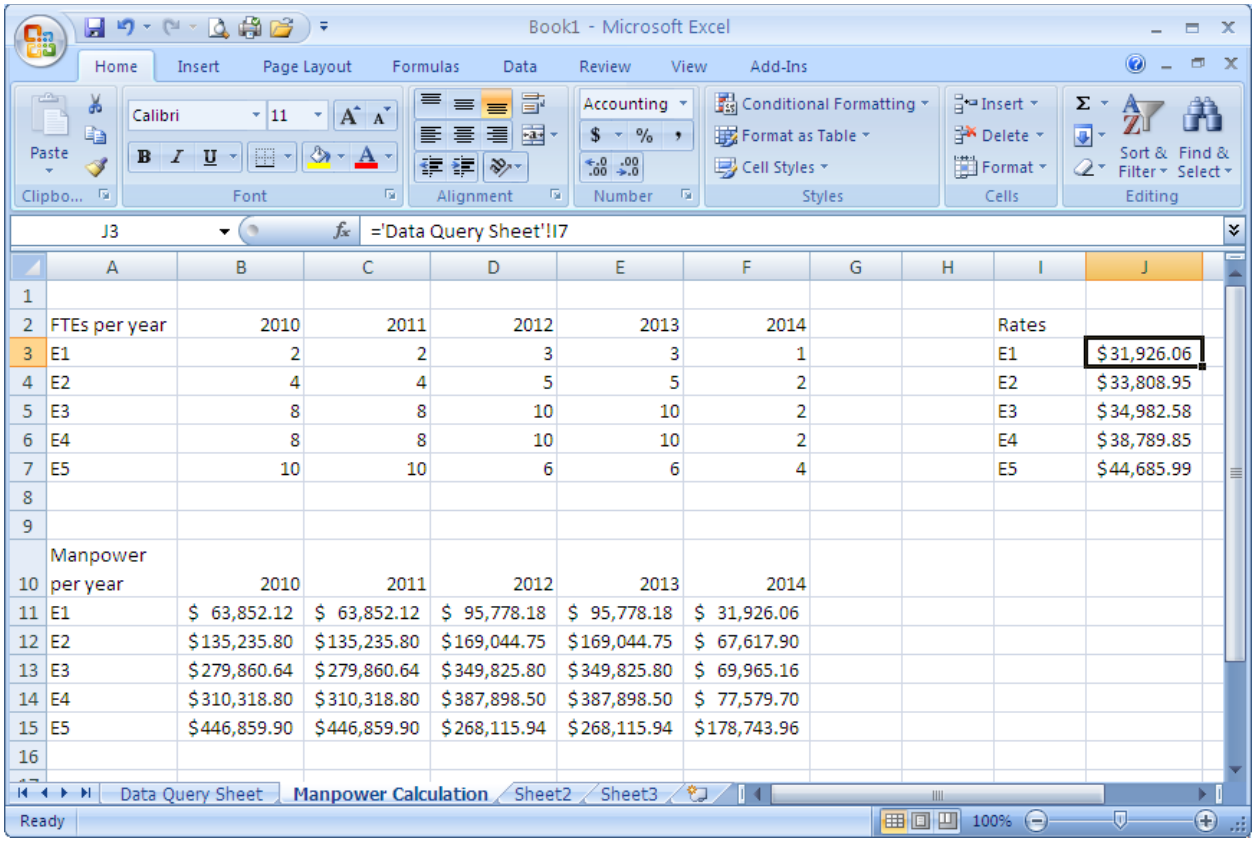


Figure 100: JIAT Excel Model Runner Menu

Working with JIAT data in Excel:

Once you have JIAT data in Excel the possibilities are endless. Two examples of how to integrate the JIAT data into Excel are show here. Figure 101 takes the AMCOS data queried in Figure 98 and links it into an Excel estimating workbook. The formula bar shows the equation linking the rates from the AMCOS Data Query Sheet into an example Excel sheet called Manpower Calculation.



	A	B	C	D	E	F	G	H	I	J
1										
2	FTEs per year	2010	2011	2012	2013	2014			Rates	
3	E1	2	2	3	3	1			E1	$31,926.06
4	E2	4	4	5	5	2			E2	$33,808.95
5	E3	8	8	10	10	2			E3	$34,982.58
6	E4	8	8	10	10	2			E4	$38,789.85
7	E5	10	10	6	6	4			E5	$44,685.99
8										
9										
10	Manpower per year	2010	2011	2012	2013	2014				
11	E1	$ 63,852.12	$ 63,852.12	$ 95,778.18	$ 95,778.18	$ 31,926.06				
12	E2	$135,235.80	$135,235.80	$169,044.75	$169,044.75	$ 67,617.90				
13	E3	$279,860.64	$279,860.64	$349,825.80	$349,825.80	$ 69,965.16				
14	E4	$310,318.80	$310,318.80	$387,898.50	$387,898.50	$ 77,579.70				
15	E5	$446,859.90	$446,859.90	$268,115.94	$268,115.94	$178,743.96				
16										

Figure 101: JIAT Excel Run Query Results linked to Excel Worksheet

Figure 102, Figure 103, Figure 104, and Figure 105 show an example of pulling JIAT OSMIS data into Excel, linking it into an Excel CO$TAT worksheet, running a CO$TAT Linear CER Regression, and viewing the regression statistical results.

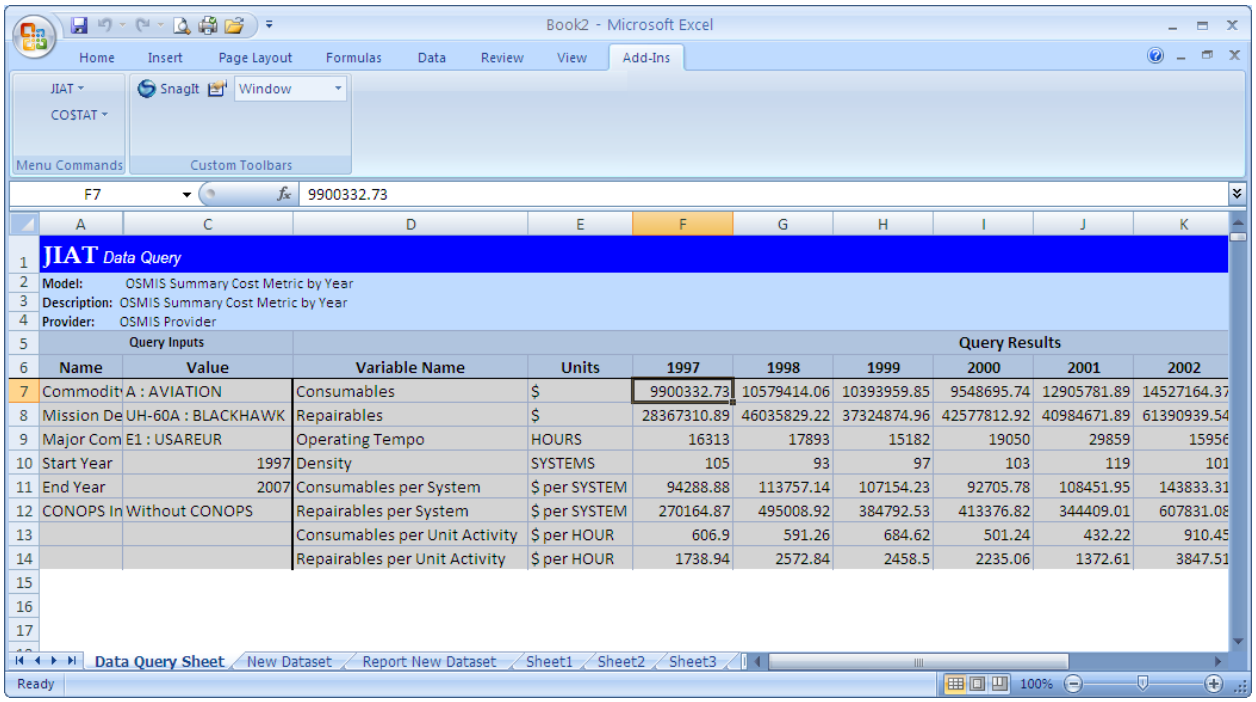


Figure 102: JIAT Excel Run Query OSMIS Example

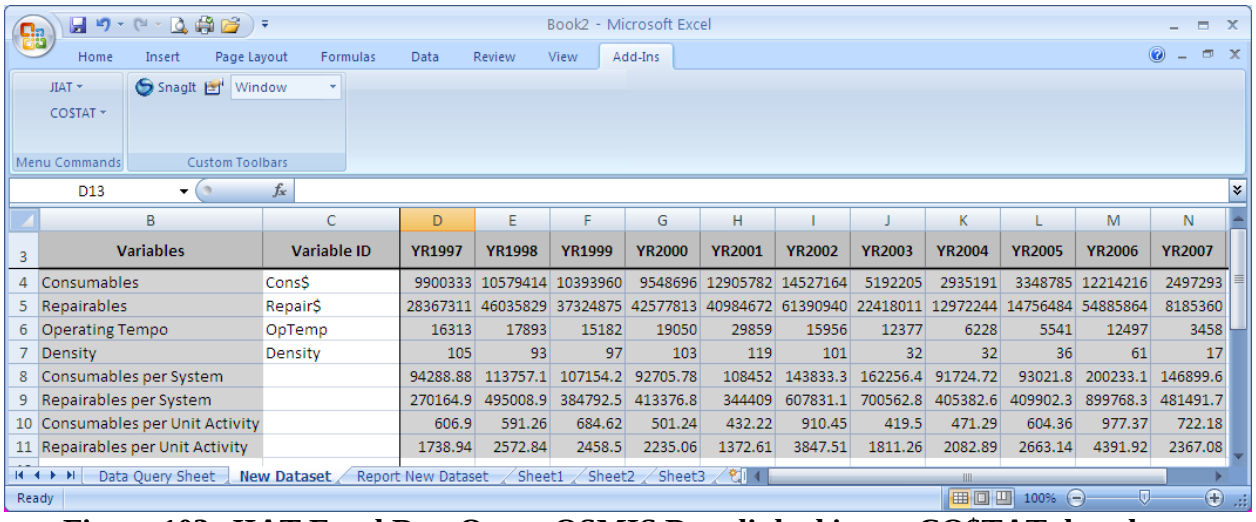


Figure 103: JIAT Excel Run Query OSMIS Data linked into a CO$TAT datasheet

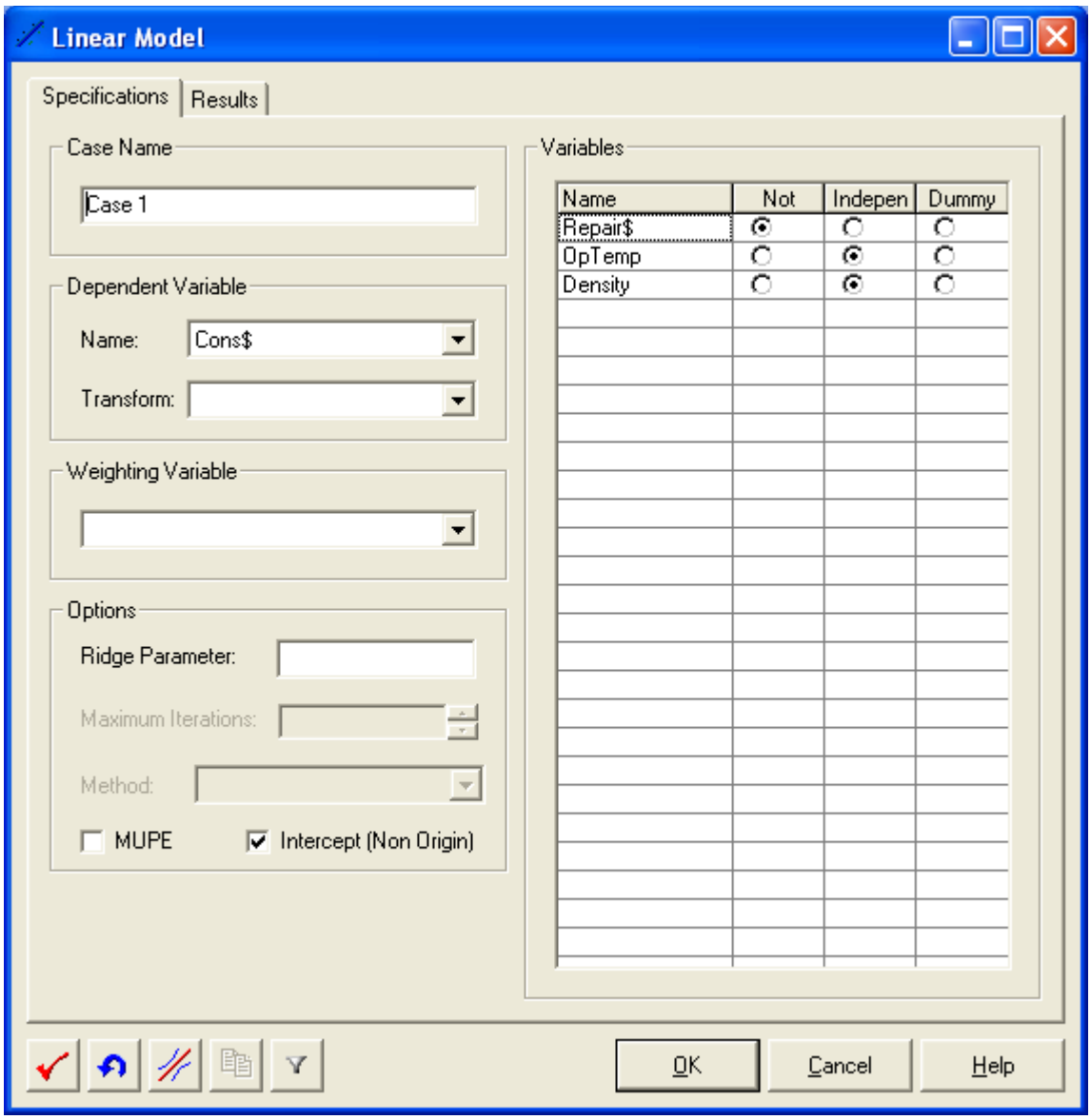


Figure 104: JIAT Excel Run Query OSMIS Data Regression

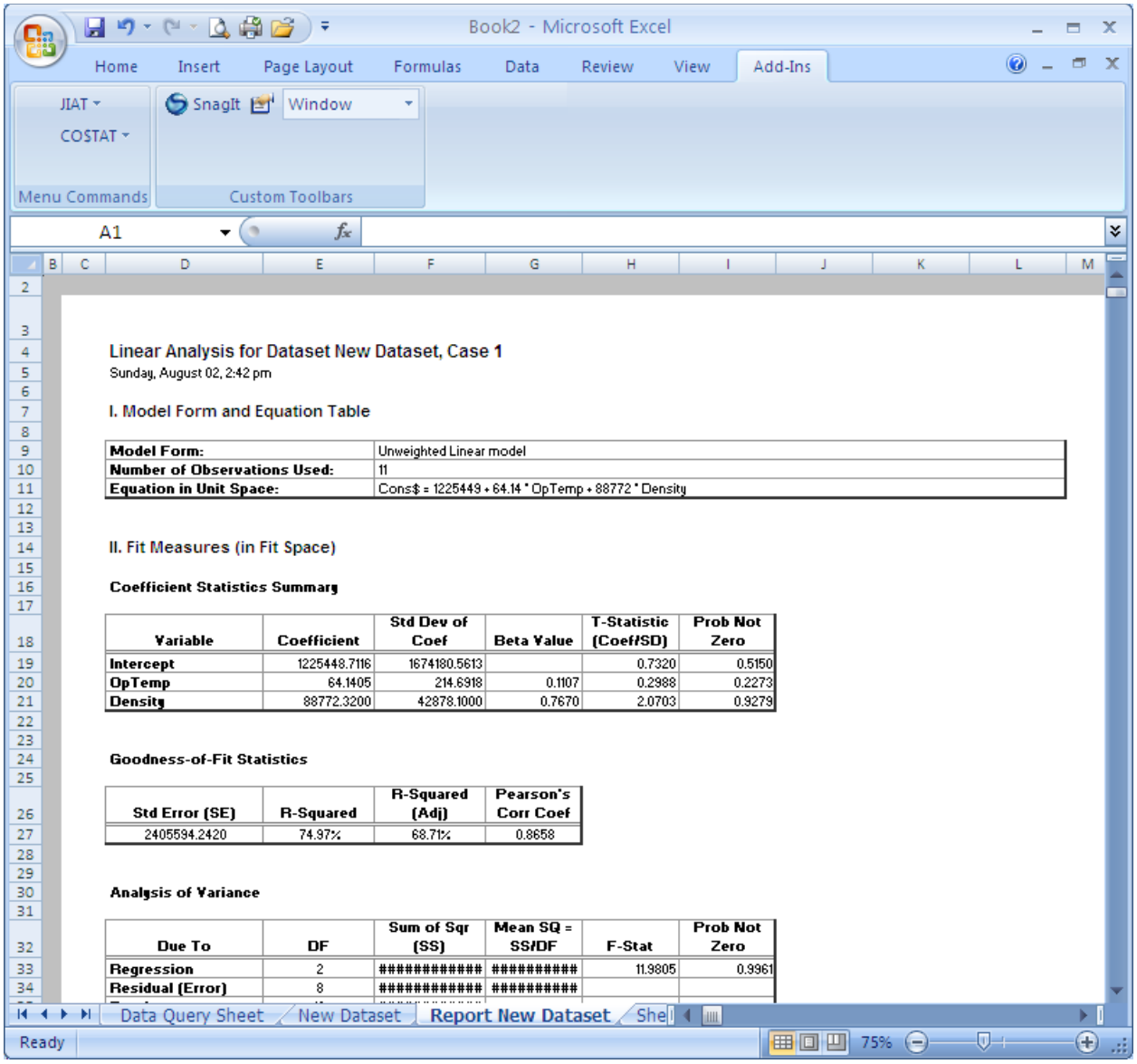


Figure 105: JIAT Excel Run Query OSMIS Data Analyzed by CO$TAT

Re-linking JIAT Excel JIAT Model worksheets to the JIAT server:

As models are updates and stored with different files names from time to time you may need to reestablish the link between your JIAT Excel Model worksheet and a model on the JIAT server. This process is only for the JIAT models not the data queries. To Re-link a session select **JIAT>Relink Model** and select the model you wish to connect to. The relink requires that the files you are link to has the same variables.

JIAT

JIAT USER GUIDE

CHAPTER 12 – USING ACE TO INTEGRATE ESTIMATING INFORMATION TO DEVELOP A COST ESTIMATE/MODEL

ACE offers a platform to build a cost estimating model. Part of the process of building an ACE session is to insert CERs for the estimating methodologies. These CERs can come from a variety of locations including JIAT. JIAT offers CER libraries to store, search, and retrieve estimating equations. JIAT CERs can be inserted into ACE sessions using the JIAT ACE Plug-in discussed in this Chapter. In addition, results from JIAT Model Runner Sessions can be imported into an ACE session. We will also look at importing JIAT Session case results in this section.

Adding the JIAT ACE Plug-in to ACE:

In order to work with JIAT in ACE you need to load the JIAT ACE Plug-in menu item to the ACE tool bar menu. This is a multi-step process that you will only need to perform once on your computer. Begin by running ACE 7.1. Then open a blank or existing session using File Open. To set up the JIAT plug-in click **Tools > Customize Tools** as shown in Figure 106.

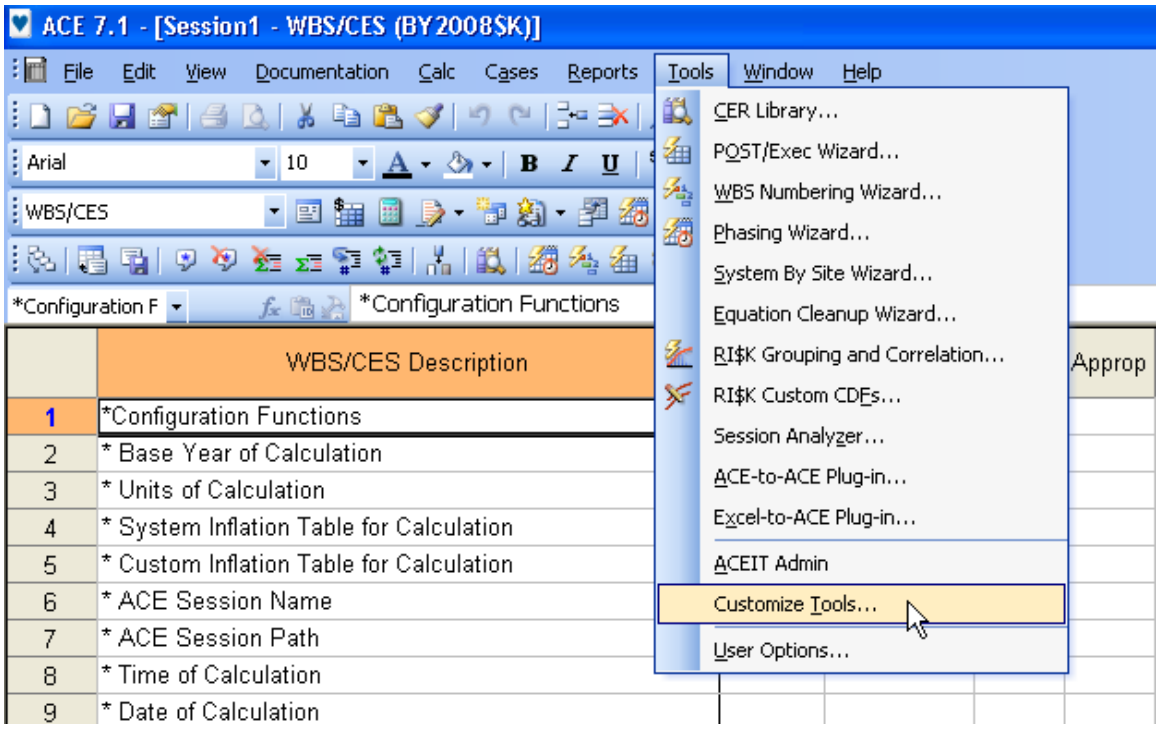


Figure 106: Adding the JIAT Plug-in to ACE

On the "Custom Tools" dialog, click the "Add new tool to menu" icon  (see Figure 107).

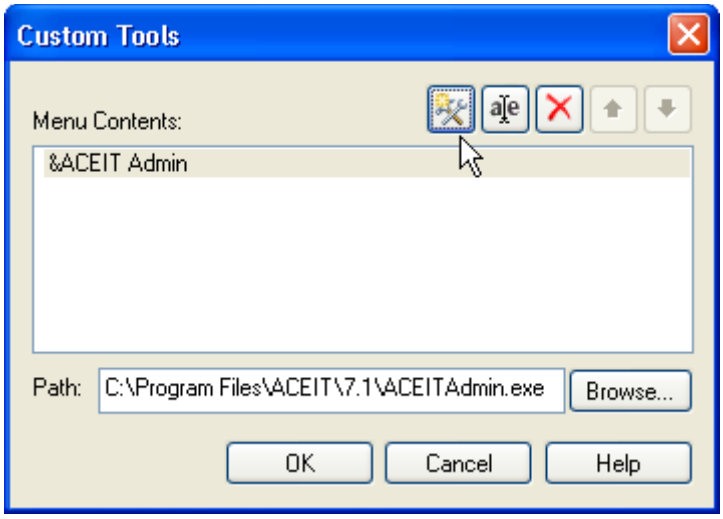


Figure 107: Adding Custom Tools

Browse for the plugins under C:\Program Files\JIAT Desktop Tools (or to whichever location you installed the tools). Open the JIAT ACE Plugin.tlb as shown in Figure 108.

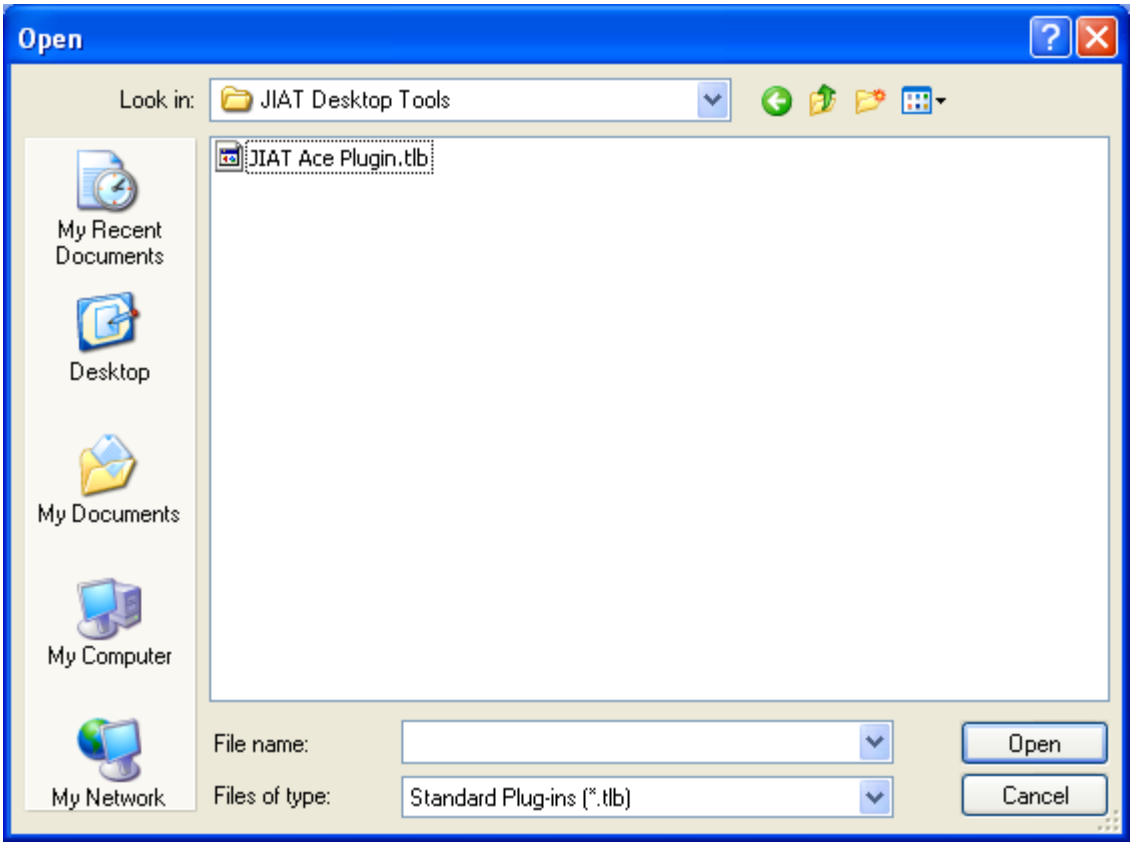


Figure 108: Select the JIAT ACE Plugin.tlb

The JIAT ACE Plugin.tlb appears on the Custom Tools dialog. You can rename the custom tool to JIAT ACE Plugin (i.e. remove the tlb). What text is entered on this screen is the name on the Tools menu bar. Click OK on the Custom Tools dialog to except the new menu item.

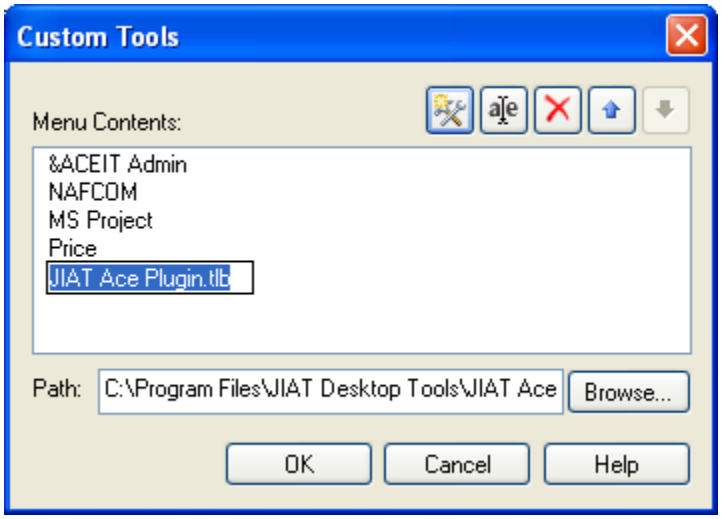


Figure 109: Select the JIAT ACE Plugin.tlb

Figure 110 shows the JIAT ACE Plug-in on the ACE Tools menu. You are now ready to run the JIAT ACE Plug-in.

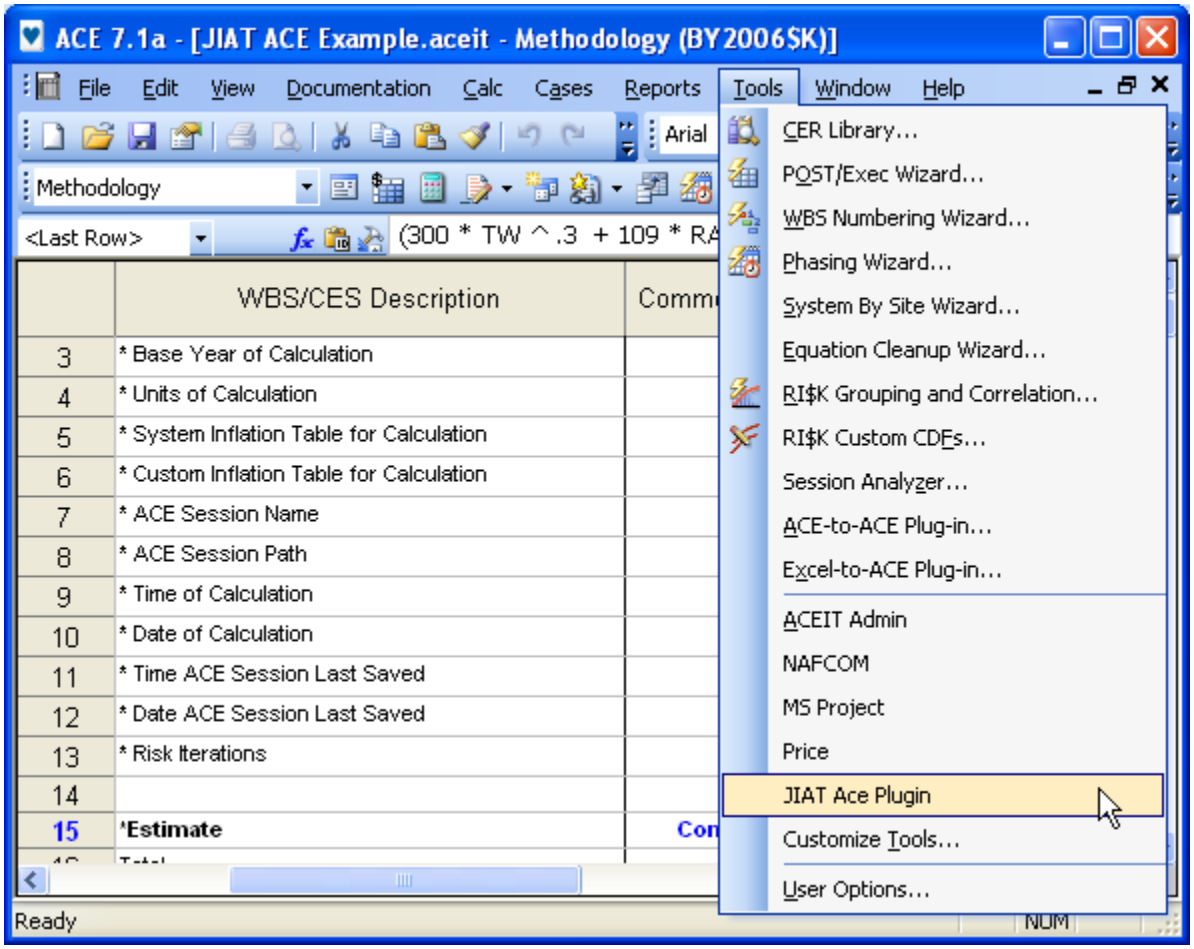


Figure 110: JIAT ACE Plug-in on the ACE menu

JIAT ACE Plug-in Features:

The JIAT ACE Plug-in offers four major features organized into two main categories. The JIAT Plug-in helps you access JIAT sessions and CERs so that they can be incorporated into your ACE sessions. In addition, the JIAT Plug-in provides a JIAT Model Publishing utility to help you host an ACE session on the JIAT server. The JIAT Plug-in features include (see Figure 111):

- **Import JIAT Session Data** – this item loads a JIAT Model Session from your JIAT website account into your ACE Session
- **Update JIAT Session Data** – this item updates JIAT Model Session data that was previously loaded into your ACE session with the Import JIAT Session Data feature
- **JIAT CER Library** – this item loads a JIAT hosted CER into your session
- **Tag ACE Rows** – this item helps you set up your ACE session to be posted to the JIAT server. We discuss this feature in detail in a later Chapter.

Figure 111: JIAT ACE Plug-in Features

Pulling a JIAT Hosted CER into an ACE Session:

The JIAT ACE Plug-in can import any CER hosted on the JIAT server into your ACE session. It allows you to search for and import a CER into your ACE session so that it can be incorporated into your methodologies.

To bring this process start the plug-in select **Tools>JIAT ACE Plugin**. From the JIAT ACE Plug-in menu select JIAT CER Library. Figure 112 shows the JIAT Plug-in CER Selection dialog with Library selection and Search by parameters entered.

The Libraries to Search section shows all of the libraries available to you. You can search just one or across multiple libraries at a time. You can use the Search by area to search for a CER by phase, subject, and by text. To search by phase or subject you must select the check box to activate the parameter drop downs. Once you have selected at least one library and entered search parameters press the search button to locate potential CERs to insert into your ACE session.

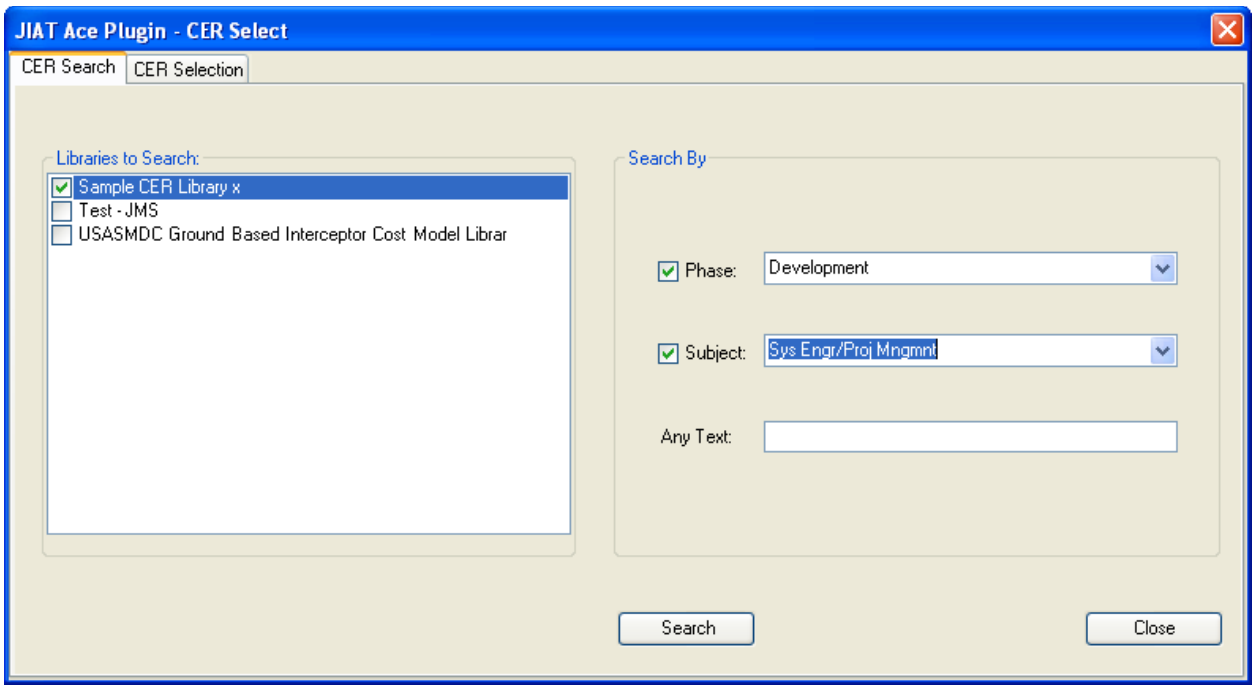


Figure 112: JIAT ACE Plug-in CER Search

After the search the CER Selection tab shows you a list of CERs to choose from by library grouping. You can see a definition for the CER by highlight the CER and pressing the Definition button. With the CER selected you can also press the paste button to insert it into your ACE session. Figure 113 shows an example of a CER selection.

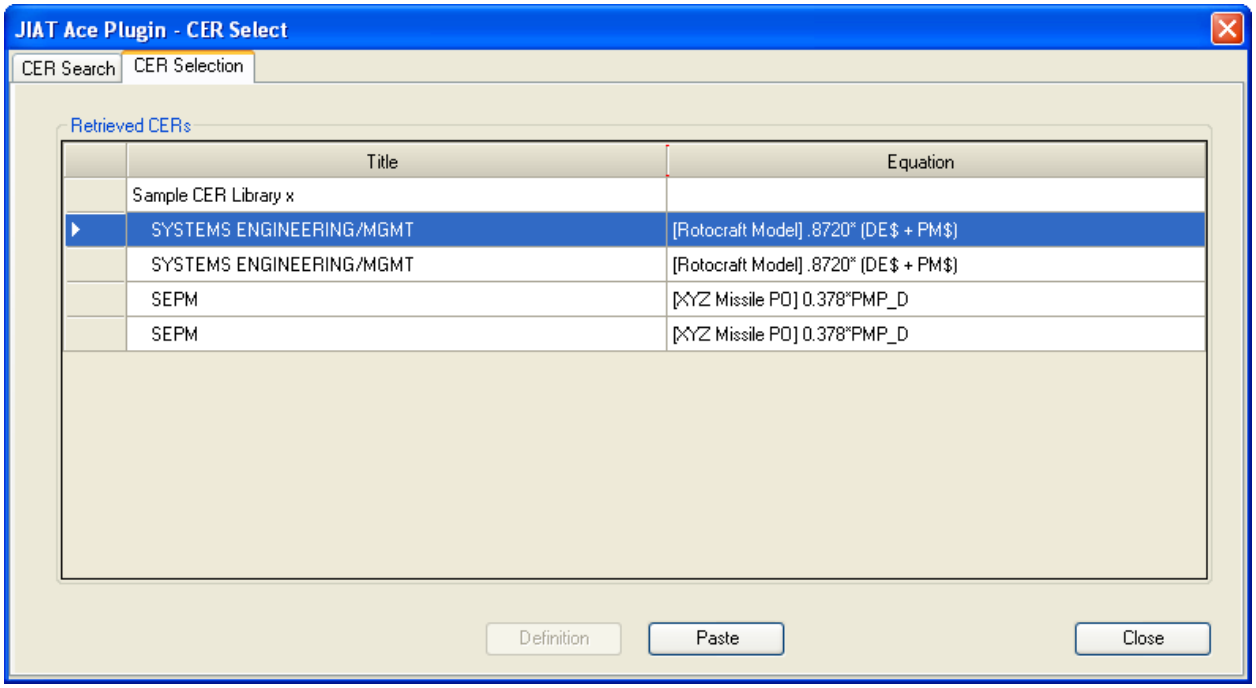
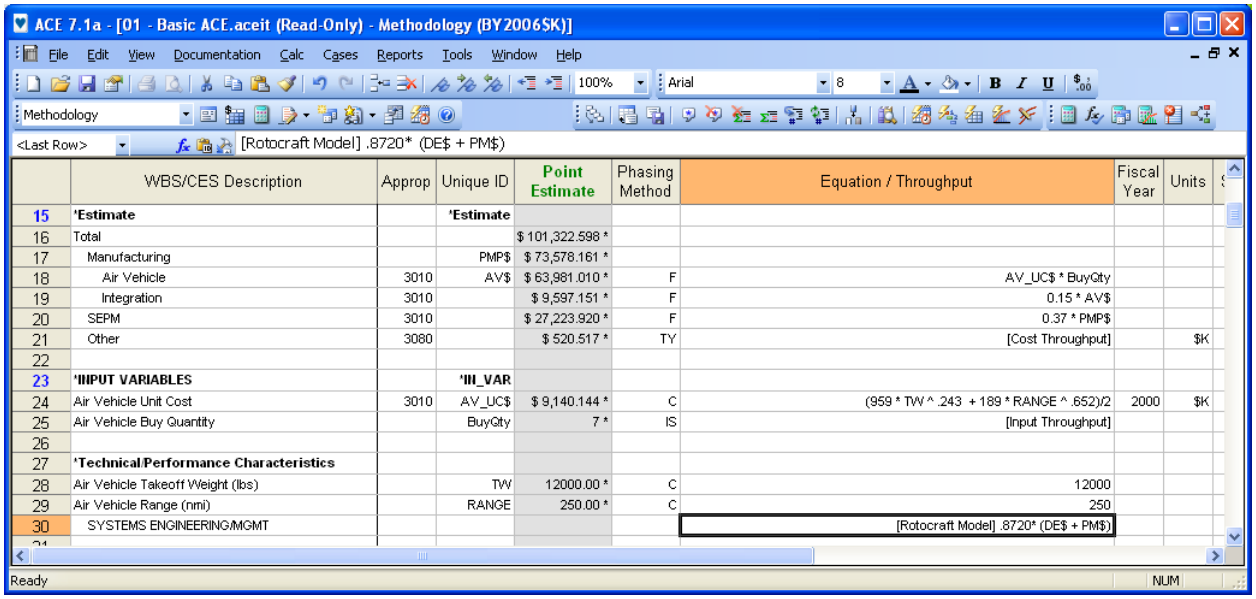


Figure 113: JIAT ACE Plug-in CER Selection

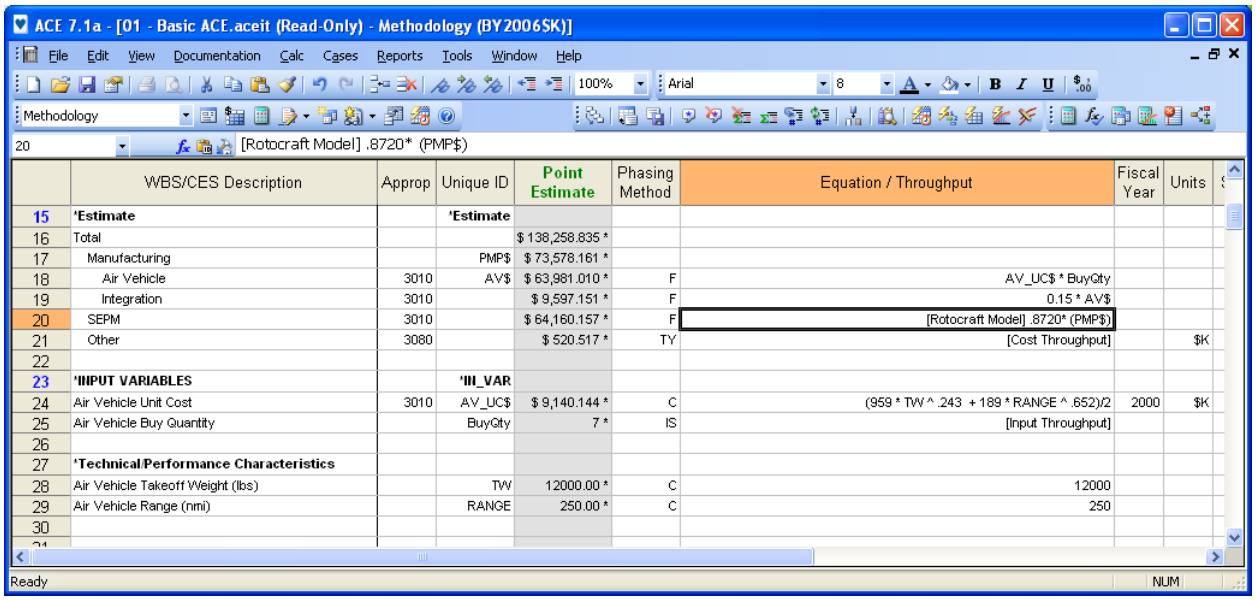
The CER is inserted into the last row of your ACE session as shown in Figure 114. You can then modify you session methods to link the CER row into your session's methodologies.



	WBS/CES Description	Approp	Unique ID	Point Estimate	Phasing Method	Equation / Throughput	Fiscal Year	Units
15	'Estimate		'Estimate					
16	Total			$ 101,322.598 *				
17	Manufacturing		PMP$	$ 73,578.161 *				
18	Air Vehicle	3010	AV$	$ 63,981.010 *	F	AV_UC$ * BuyQty		
19	Integration	3010		$ 9,597.151 *	F	0.15 * AV$		
20	SEPM	3010		$ 27,223.920 *	F	0.37 * PMP$		
21	Other	3080		$ 520.517 *	TY	[Cost Throughput]		$K
22								
23	'INPUT VARIABLES		'IN_VAR					
24	Air Vehicle Unit Cost	3010	AV_UC$	$ 9,140.144 *	C	(959 * TW ^ .243 + 189 * RANGE ^ .652)/2	2000	$K
25	Air Vehicle Buy Quantity		BuyQty	7 *	IS	[Input Throughput]		
26								
27	'Technical/Performance Characteristics							
28	Air Vehicle Takeoff Weight (lbs)		TW	12000.00 *	C	12000		
29	Air Vehicle Range (nmi)		RANGE	250.00 *	C	250		
30	SYSTEMS ENGINEERING/MGMT					[Rotocraft Model] .8720* (DE$ + PM$)		

Figure 114: JIAT ACE Plug-in CER in ACE

Figure 115 shows the example session with the methods modified to link the CER into this specific session. The new SEPM Factor CER was moved to the SEPM WBS row and the (DE$ + PM$) variables were adjusted to PMP$. In this example PMP$ is the sum of Development Engineering and Program Management.

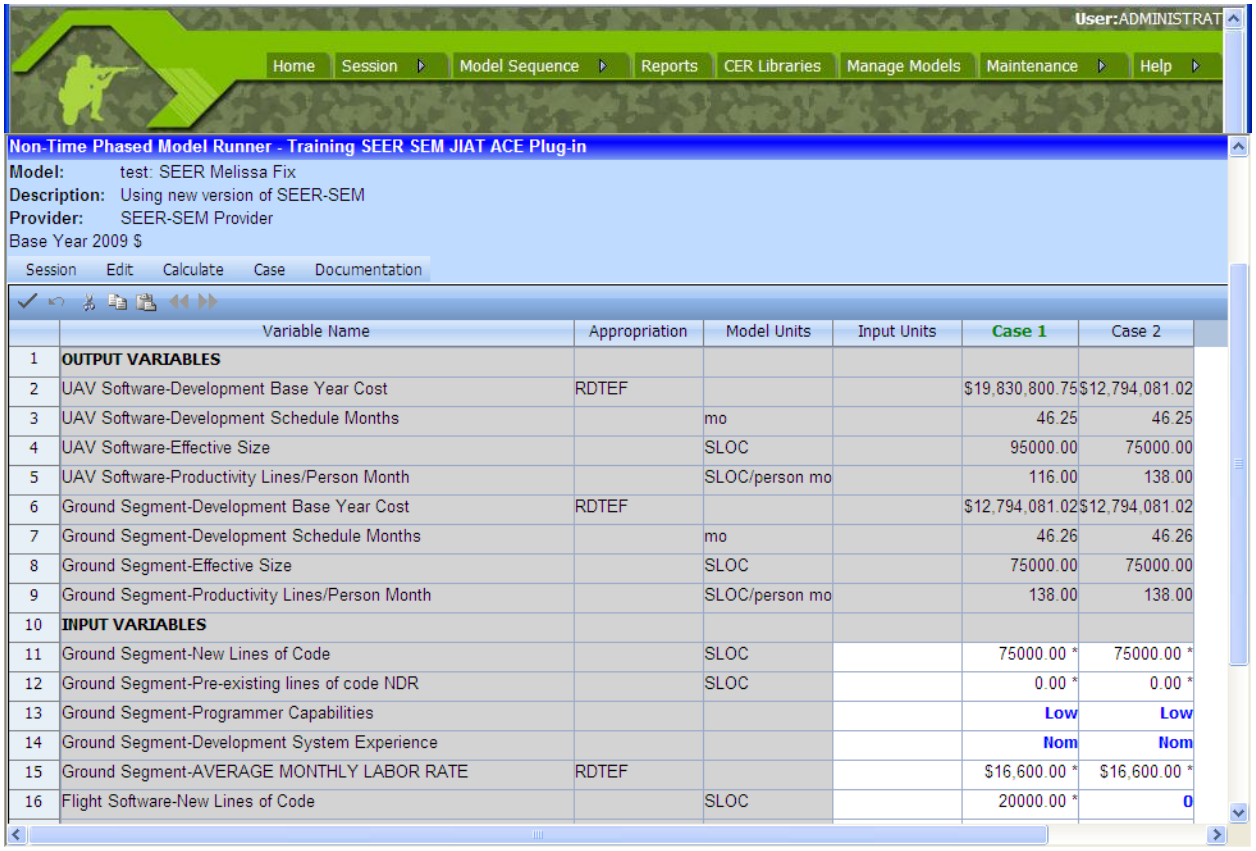


	WBS/CES Description	Approp	Unique ID	Point Estimate	Phasing Method	Equation / Throughput	Fiscal Year	Units
15	'Estimate		'Estimate					
16	Total			$ 138,258.835 *				
17	Manufacturing		PMP$	$ 73,578.161 *				
18	Air Vehicle	3010	AV$	$ 63,981.010 *	F	AV_UC$ * BuyQty		
19	Integration	3010		$ 9,597.151 *	F	0.15 * AV$		
20	SEPM	3010		$ 64,160.157 *	F	[Rotocraft Model] .8720* (PMP$)		
21	Other	3080		$ 520.517 *	TY	[Cost Throughput]		$K
22								
23	'INPUT VARIABLES		'IN_VAR					
24	Air Vehicle Unit Cost	3010	AV_UC$	$ 9,140.144 *	C	(959 * TW ^ .243 + 189 * RANGE ^ .652)/2	2000	$K
25	Air Vehicle Buy Quantity		BuyQty	7 *	IS	[Input Throughput]		
26								
27	'Technical/Performance Characteristics							
28	Air Vehicle Takeoff Weight (lbs)		TW	12000.00 *	C	12000		
29	Air Vehicle Range (nmi)		RANGE	250.00 *	C	250		
30								

Figure 115: JIAT ACE Plug-in CER in ACE with Model Updates

Incorporating a JIAT Model Session into an ACE session:

In order to incorporate a JIAT model into your ACE session you must first create a JIAT session for the model with a JIAT Model Runner Provider like SEER-SEM or ACE with the JIAT web browser. This is discussed in detail in Chapters 8 and 9. Figure 116 shows a sample **JIAT SEER-SEM Model Runner** session. You can create multiple cases in the JIAT session and then import the result of specific cases into your ACE session. Once you have created your JIAT session and created and calculated cases you must save the JIAT session. The next several steps outline how to import this example JIAT Session into an ACE session.



	Variable Name	Appropriation	Model Units	Input Units	Case 1	Case 2
1	**OUTPUT VARIABLES**					
2	UAV Software-Development Base Year Cost	RDTEF			$19,830,800.75	$12,794,081.02
3	UAV Software-Development Schedule Months		mo		46.25	46.25
4	UAV Software-Effective Size		SLOC		95000.00	75000.00
5	UAV Software-Productivity Lines/Person Month		SLOC/person mo		116.00	138.00
6	Ground Segment-Development Base Year Cost	RDTEF			$12,794,081.02	$12,794,081.02
7	Ground Segment-Development Schedule Months		mo		46.26	46.26
8	Ground Segment-Effective Size		SLOC		75000.00	75000.00
9	Ground Segment-Productivity Lines/Person Month		SLOC/person mo		138.00	138.00
10	**INPUT VARIABLES**					
11	Ground Segment-New Lines of Code		SLOC		75000.00 *	75000.00 *
12	Ground Segment-Pre-existing lines of code NDR		SLOC		0.00 *	0.00 *
13	Ground Segment-Programmer Capabilities				Low	Low
14	Ground Segment-Development System Experience				Nom	Nom
15	Ground Segment-AVERAGE MONTHLY LABOR RATE	RDTEF			$16,600.00 *	$16,600.00 *
16	Flight Software-New Lines of Code		SLOC		20000.00 *	0

Figure 116: Sample JIAT SEER-SEM Model for Import into an ACE Session

The JIAT session results information is imported into your ACE session in a series of ACE DECs. The DECs are automatically added to you ACE session when you run the JIAT ACE Plug-in. You can get your ACE session prepared for importing the JIAT data by creating a new workscreen for the DECs. To create a new workscreen in ACE follow these basic steps.

- Open ACE and load the session where you want to import the JIAT session data
- Select **View>Arrange**
- On the Arrange Workscreen dialog press the New button
- When asked to “Use the current workscreen,” press No to create a blank workscreen
- Change the Workscreen Title to “JIAT Session Data”
- With the new workscreen open you can launch the JIAT ACE Plug-in

To run the JIAT ACE plug-in select **Tools>JIAT ACE Plug-in**. From the JIAT ACE Plug-in menu shown in Figure 117 select the Import JIAT Session Data button.

Figure 117: JIAT ACE Plug-in to Import JIAT Session Data

Figure 118 shows the Import JIAT Data dialog. There are four steps to specifying JIAT Session model information with the Import JIAT Data dialog.

- Specify the JIAT Session to import – enter a session name by pressing the browse button and selecting the JIAT session
- Select the session case to import
- Check which model variables to import into the ACE session
- Check which results to import into the ACE session

To specify the JIAT session to import press the browse button next to the Name field.

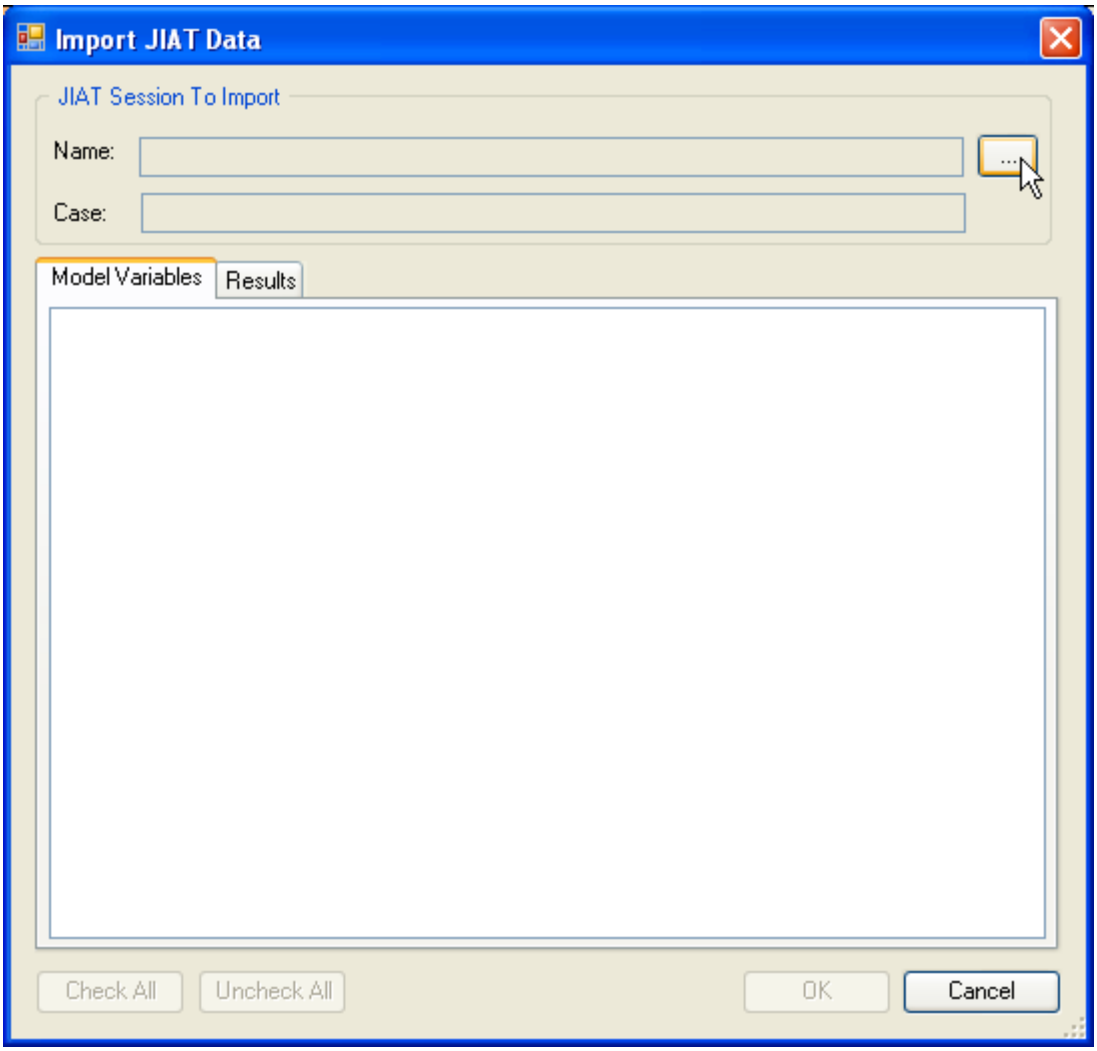


Figure 118: Import JIAT Data Dialog

Select the JIAT session and the Case to Import. Use the **Case** drop down to select which case to import the results for into the ACE session (see Figure 119).

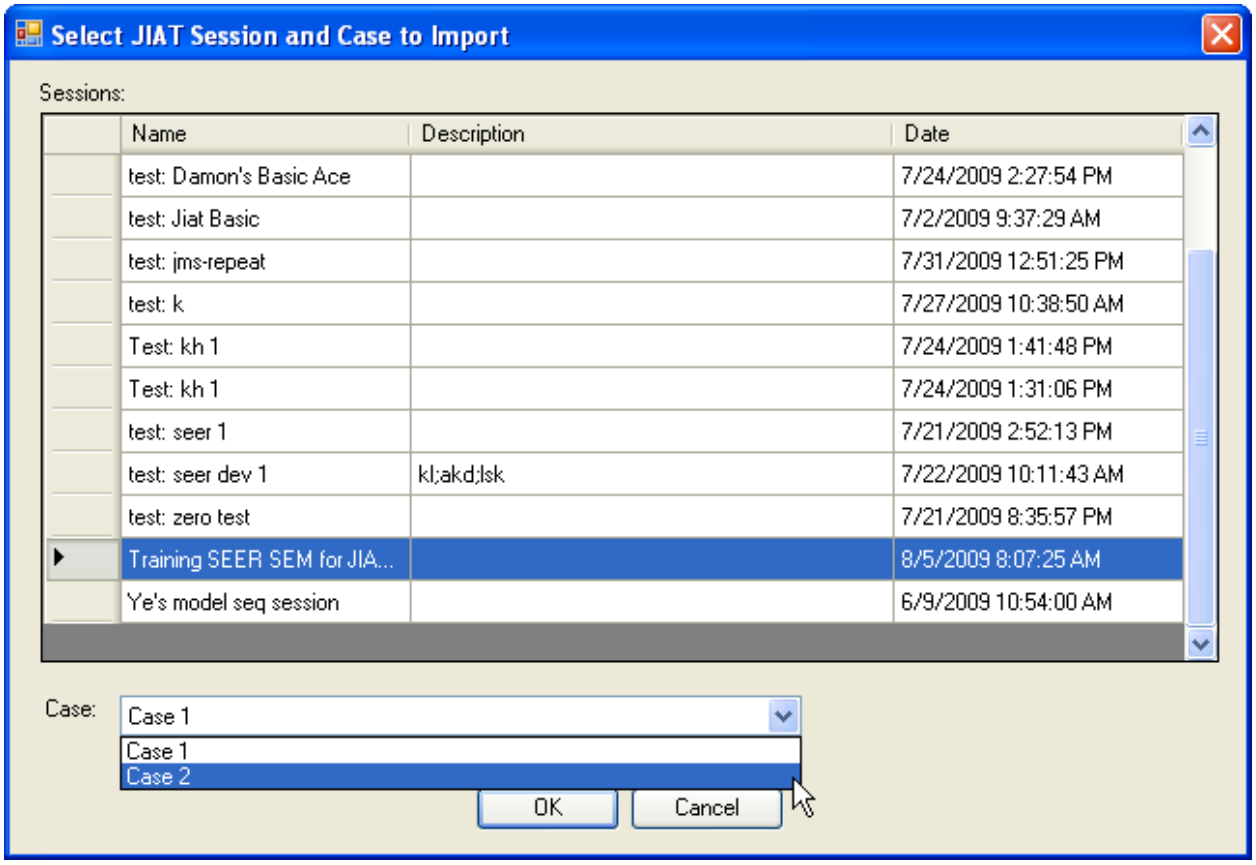


Figure 119: Select JIAT Session and Case to Import

The Import JIAT Data dialog is populated with the model variables for the session you selected. The variables listed are specific to the model used in the JIAT session. Only the variables checked are imported into the ACE session. Figure 120 shows a subset of variables selected in our example.

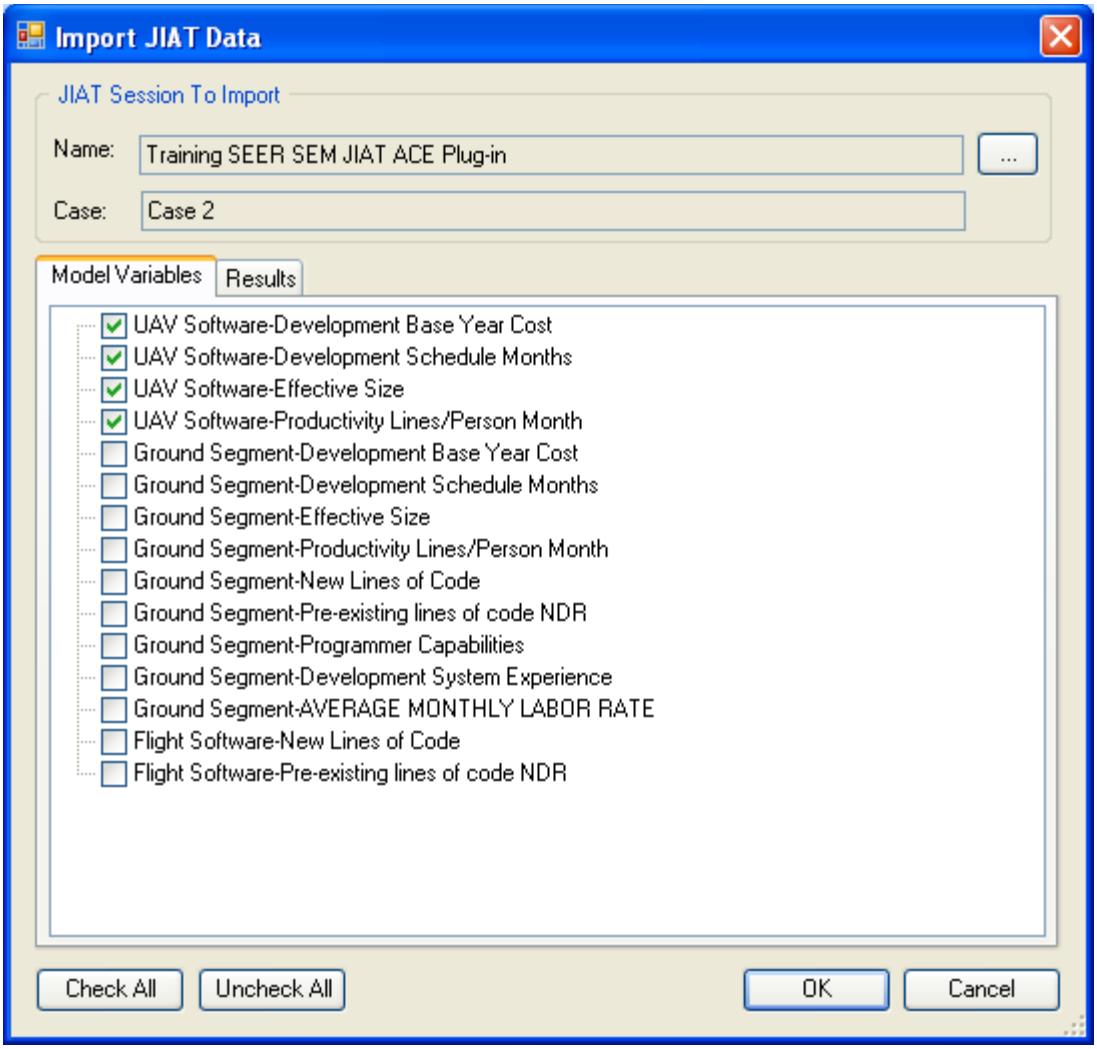


Figure 120: Import JIAT Data Model Variables

The last step is to specify which results to bring over into the ACE session. You can select both Total (Cost) and Total (Non-Cost) results (see Figure 121). Press OK to import the JIAT Session Case results into your ACE session.

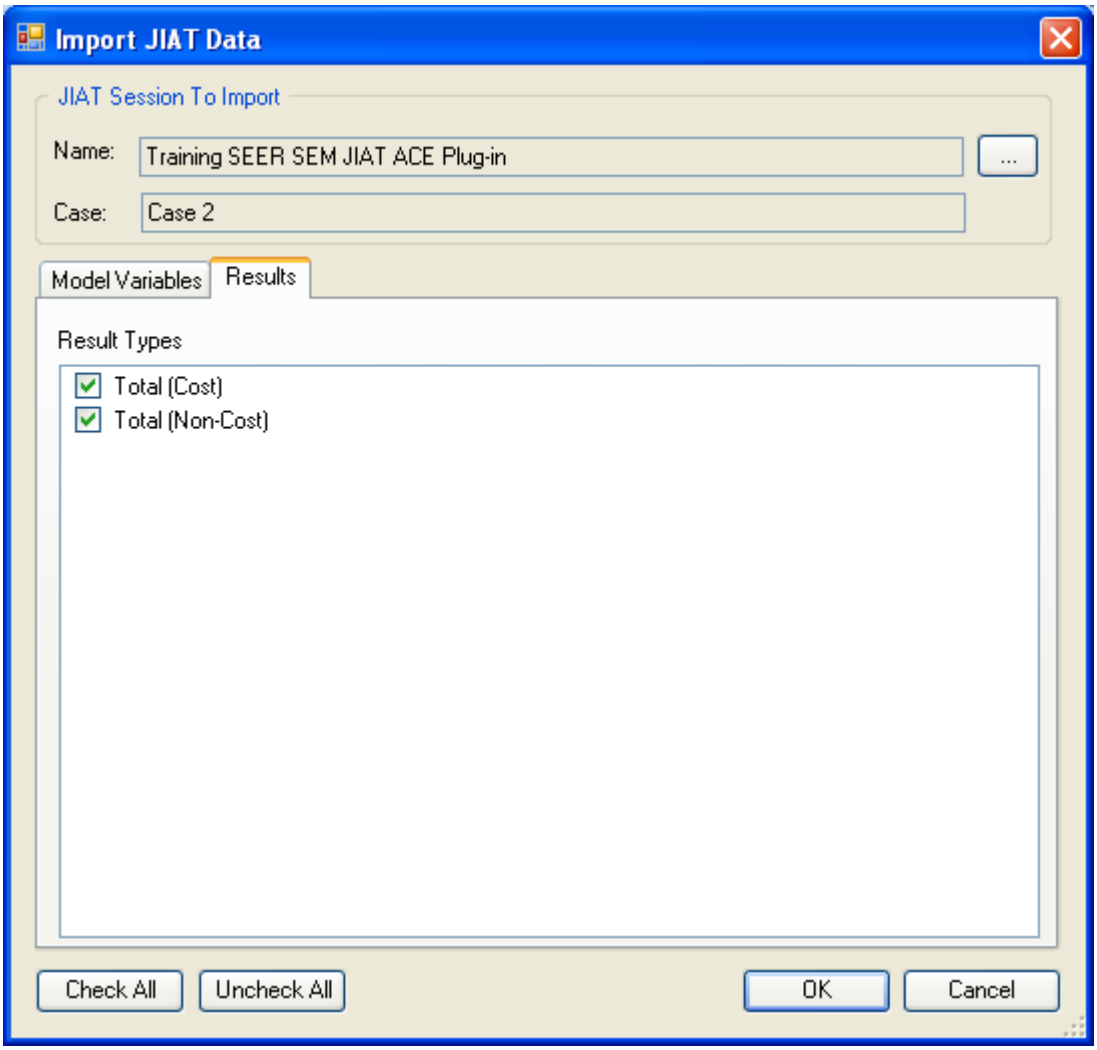


Figure 121: Import JIAT Data Results

The JIAT ACE Plug-in DECs are added to the ACE session as shown in Figure 122.

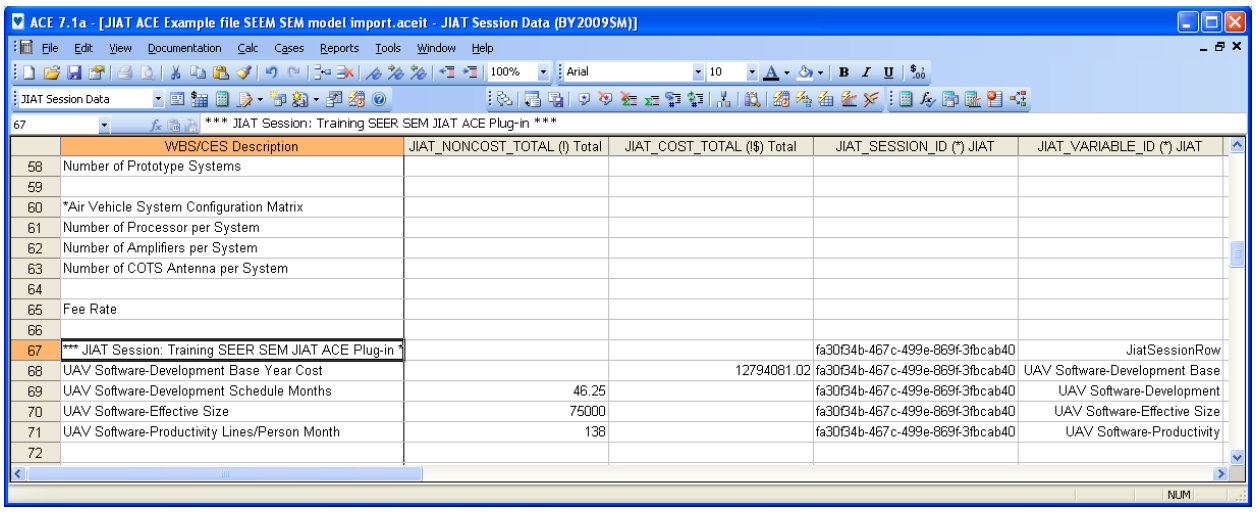


Figure 122: ACE Session with JIAT Session Imported

A summary of the DECs added to the session are shown in Table 9.

Table 9: JIAT ACE DECs

DEC NAME	DESCRIPTION	DEC ID
Total (Non-cost)	The total result of the non-cost JIAT Session Results	JIAT_NONCOST_TOTAL
Total (Cost)	The total result of the cost JIAT Session Results	JIAT_COST_TOTAL
JIAT Session ID	Name for the JIAT Session Imported from	JIAT_SESSION_ID
JIAT Variable ID	Variable names for the individual elements imported	JIAT_VARIABLE_ID
JIAT Imported Session Type	Shows the session type – currently Non-Time Phased	JIAT_IMPORT_SESSION_TYPE
Date of Import	Date the session data was last imported	JIAT_IMPORT_DATE
JIAT Imported Units	The units for the element	JIAT_IMPORTED_UNITS
Date of JIAT Session	Date the JIAT Session was saved	JIAT_SESSION_DATE
JIAT Provider Name	Name of the JIAT Provider	JIAT_PROVIDER_NAME
JIAT Model Name	Name of the JIAT Hosted Model	JIAT_MODEL_NAME
JIAT Case Name	Name of the Case from the JIAT Hosted Model	JIAT_CASE_NAME
JIAT Session Name	Name of the JIAT Session	JIAT_SESSION_NAME

Once the data is imported into the session it needs to be linked into the session. For cost rows enter JIAT_COST_TOTAL into the Equation/Throughput column for the input row. For non-cost rows enter JIAT_NONCOST_TOTAL. These inputs provide a result in the case columns when the session is calculated. In addition you need to add Unique IDs to the rows that you wish to link to the existing rows in the ACE session. Figure 123 shows the Equation/Throughput and ID information in an ACE session.

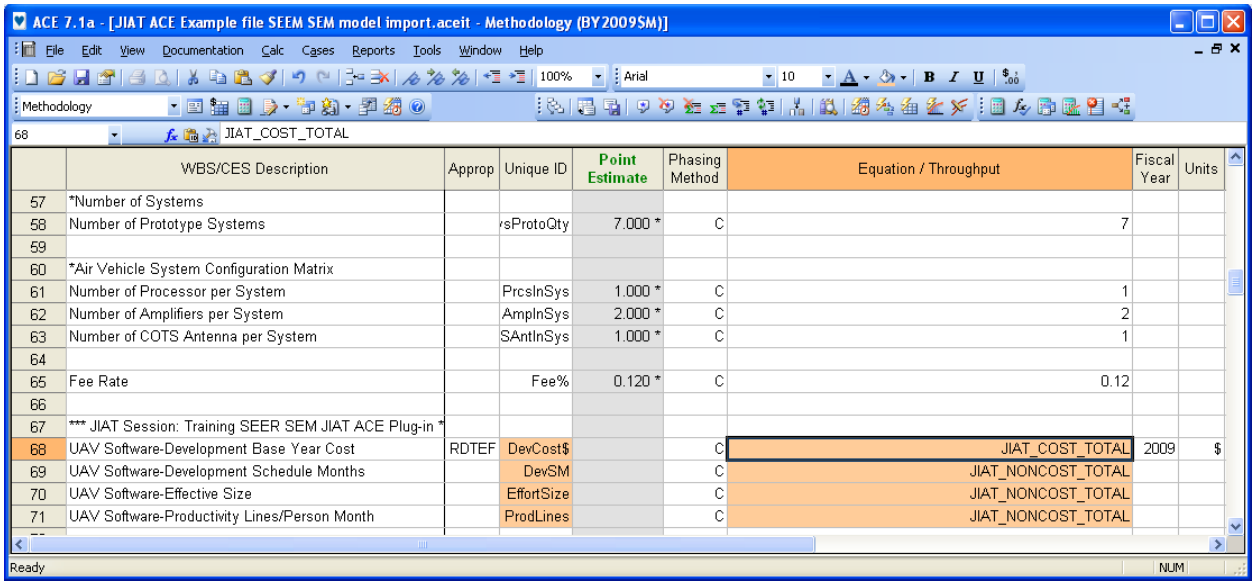


Figure 123: ACE Session with JIAT Session Imported Plus Link Information

Updating JIAT Model Session Data in an ACE session:

JIAT data imported into an ACE session can be updated with the JIAT ACE Plug-in by selecting **Update JIAT Session Data** from the JIAT ACE Plug-in dialog. A list of the JIAT Sessions found in the file appears for you to select which session or sessions to update (see Figure 124).

Figure 124: Refresh JIAT Sessions

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WORKING WITH MODEL SEQUENCES

A model sequence is the idea of stringing together models where the results of one model provide the inputs to another model resulting in one larger overarching model. In JIAT you can specify the directions for a model sequence and then run the sequence with one execution command. In this section we will learn to build and run a model sequence.

We will cover the following topic in this section:

- CHAPTER 13 – BUILDING AND RUNNING A MODEL SEQUENCE

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CHAPTER 13 – BUILDING AND RUNNING A MODEL SEQUENCE

Creating a model sequence is a way to build a larger estimating model from a series of existing smaller models. This allows groups to create modular estimate components that can be organized together to provide combine estimate results. This is a new estimating approach concept that can now be explored to develop estimates more quickly.

Model Sequence Design capability is available only to users who have been assigned this role. The administrative analyst user (Designer-user) selects and orders available JIAT Models into a Model Sequence. Model Sequences are always constructed in a linear, start to finish form. Input feeds for each model in the sequence may be mapped to other Model Inputs or Outputs that have been generated earlier in the sequence run. At the end of the sequence run all intermediate and final outputs are available for review.

JIAT Model Sequences:

There are three main steps in the creation of a model sequence:

1) Name and describe the sequence;
2) Add models to the sequence by searching & selecting available models;
3) Define the order models are to run in the sequence and map each model's input feeds.

Creating a JIAT Model Sequence:

To begin create a model sequence select **Model Sequence>Create New Sequence**. Proceed by entering a new model sequence name and description (see Figure 125).

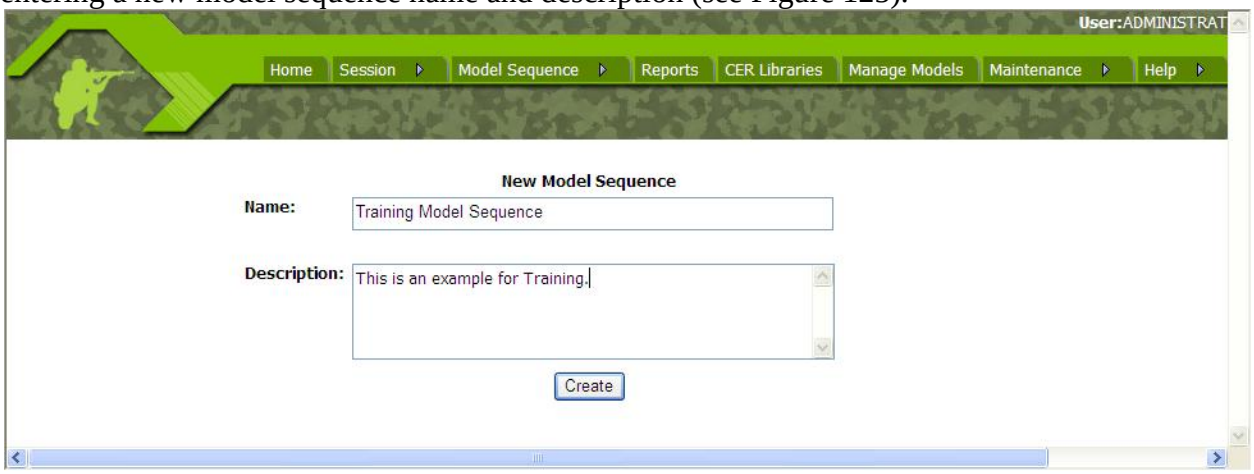


Figure 125: Creating a New Model Sequence

The model sequence designer is the main interface to create a model sequence, here you can add models to the sequence, specify the order of the models in the sequence and provide the directions to map each models input feeds. When a new session is created the designer is blank as shown in Figure 126.

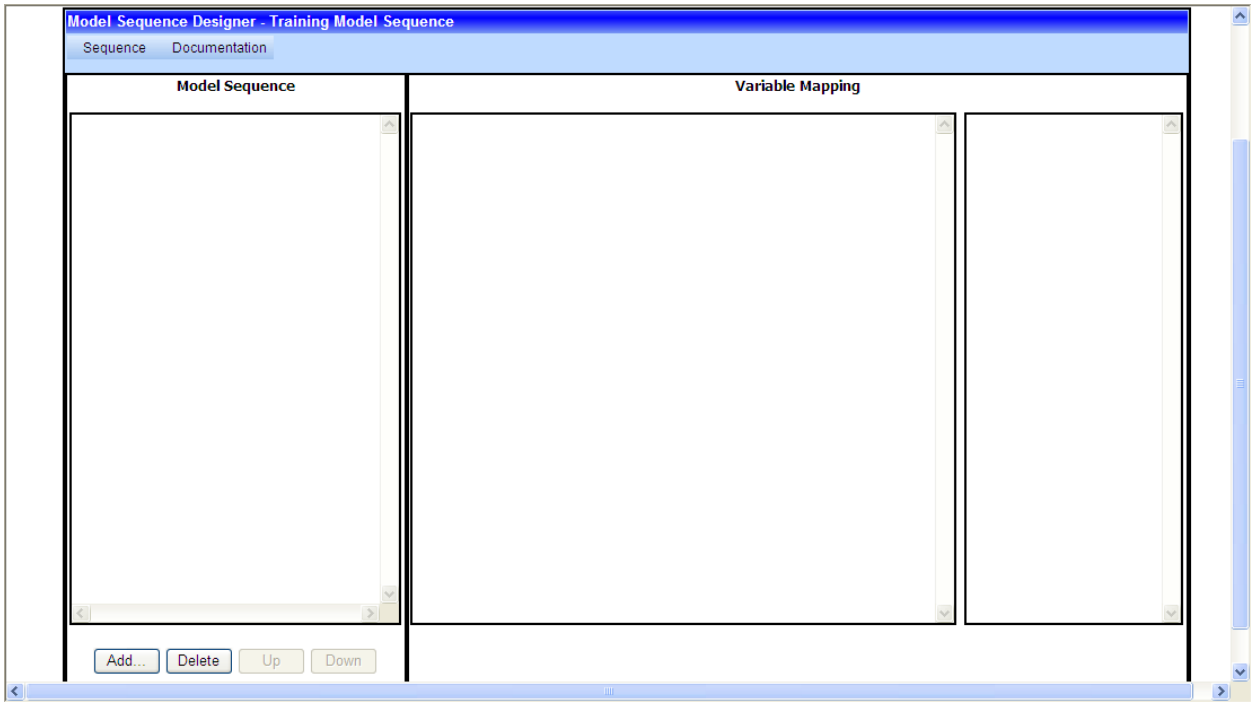


Figure 126: Model Sequence Designer Dialog

To add a model to the sequence press the **Add** button at the bottom of the screen and follow the dialog screens to specify a Provider and which model to include in the sequence. The model name is added to the Model Sequence panel and the models inputs and outputs and shown in the variable mapping section of the dialog. The variable mapping section is used to specify which inputs and outputs will be visible to the JIAT user when the model sequence is run and to Provider directions about where the elements input information is mapped from. These are the key directions the model sequence designer must define. To make a model visible in the sequence check the visible check box associated with the variables. Once a second model is added to the sequence you can provide the mapping directions. Figure 127 shows an example of adding a first model in a sequence.

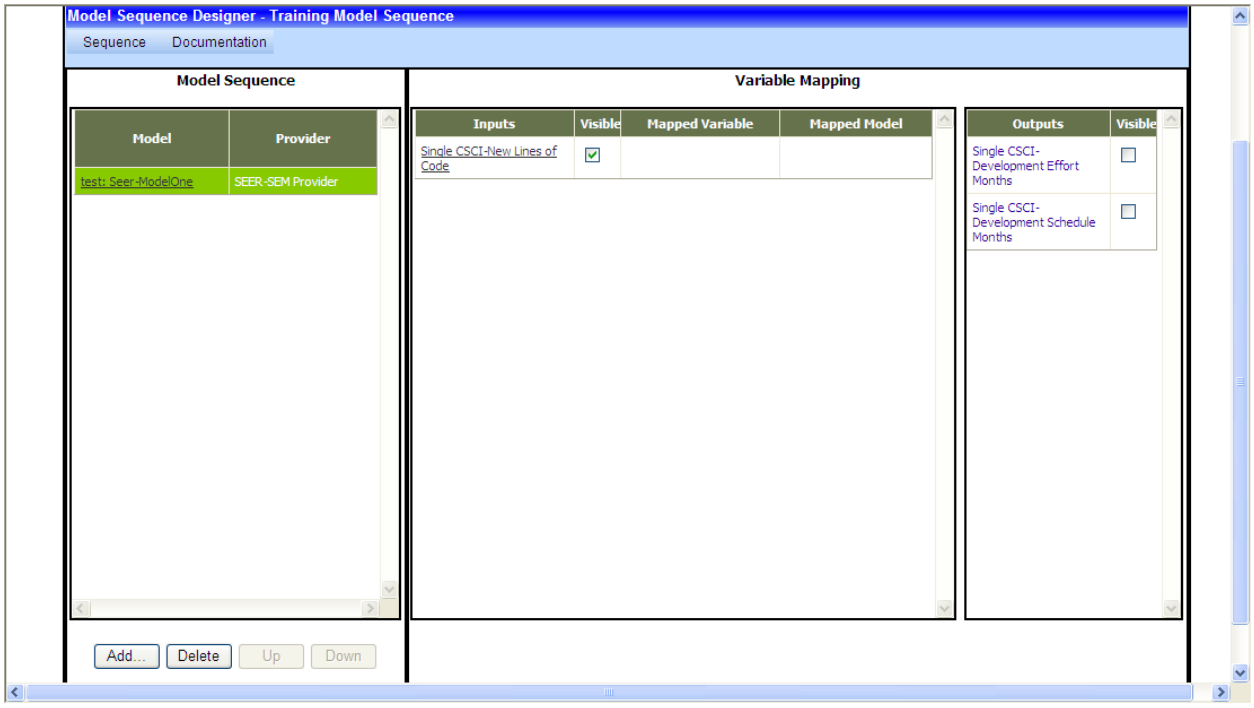


Figure 127: Model Sequence Designer with First Model

Add the next model in the sequence by again pressing the **Add** button and following the dialogs to select a Provider and a model (see Figure 128).

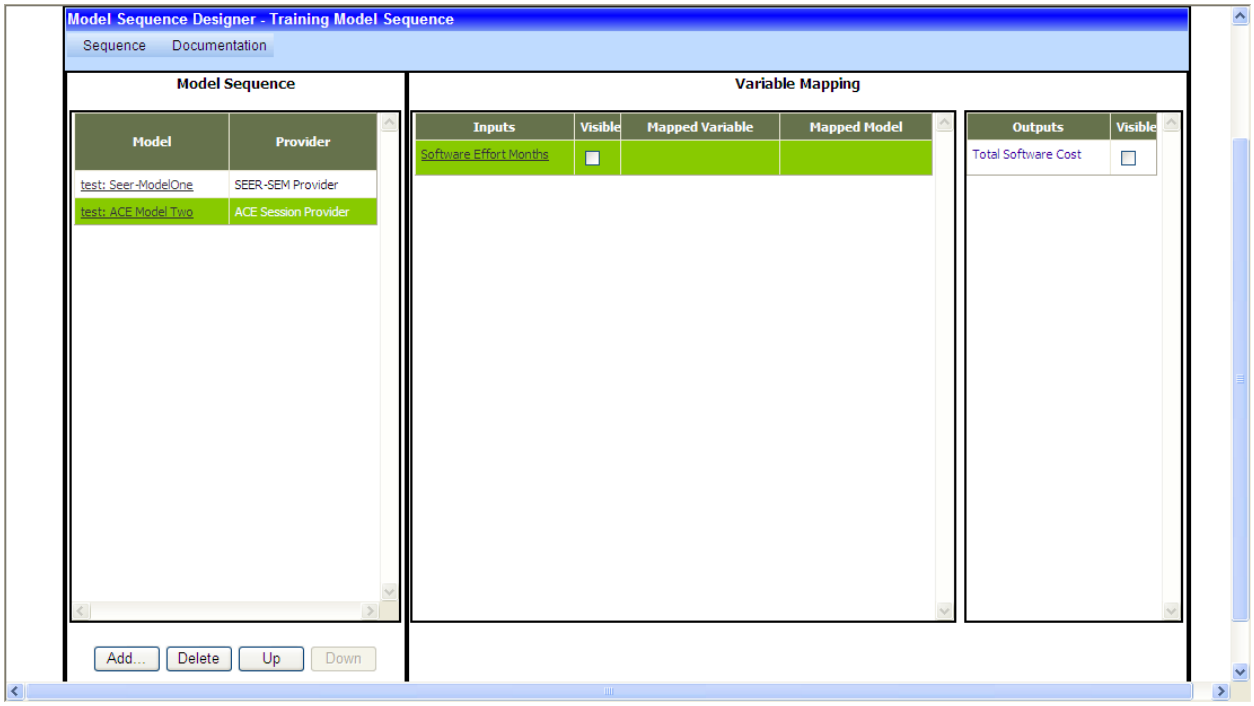


Figure 128: Model Sequence Designer with Second Model

Once there are at least two models in the sequence you can begin defining the mapping for the individual variables. To define a variables mapping click the variable name in the Inputs column. This brings up the variable mapping dialog. With the Variable Mapping button selected use the model/variable tree to select which variable you wish to map to the model input variable (see Figure 129). You need to do this mapping for each linked variable in the model sequence.

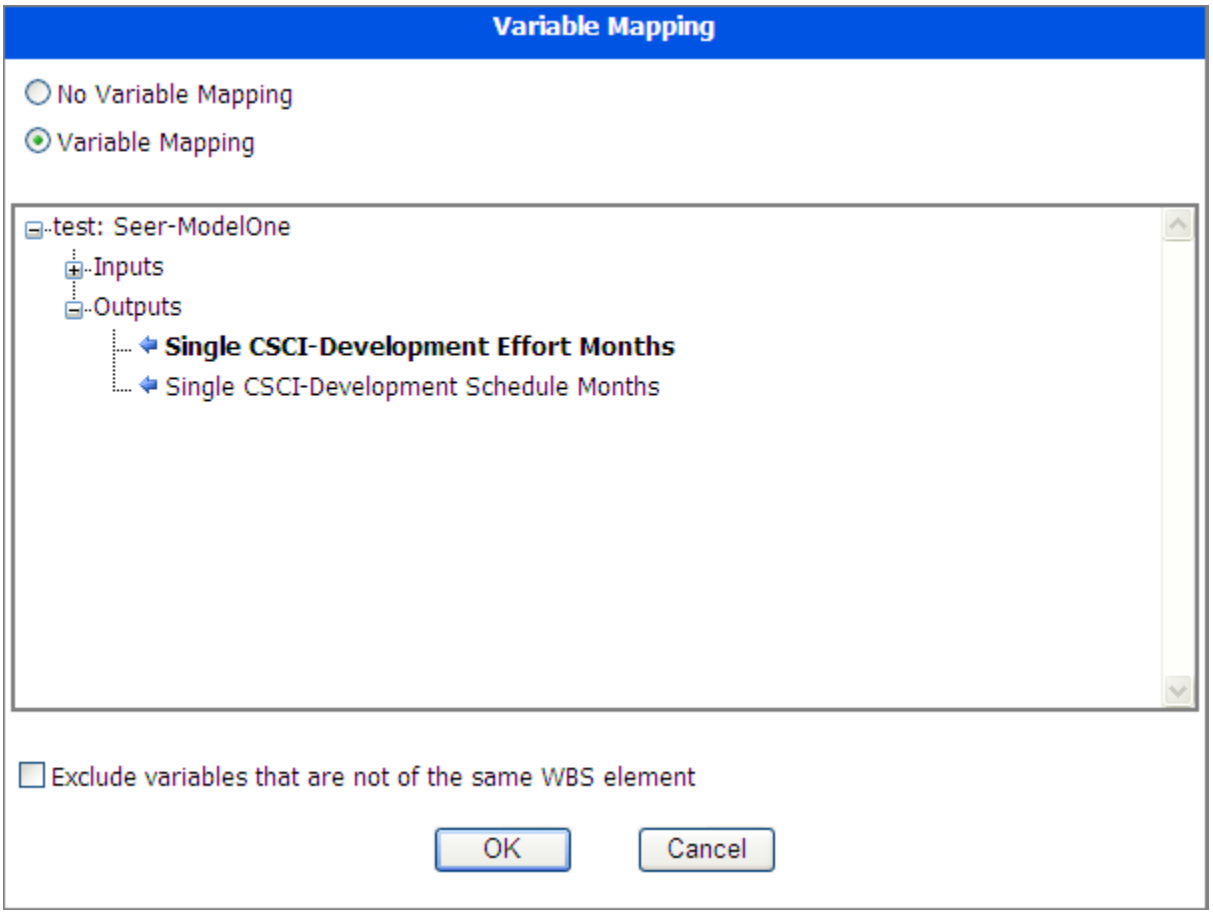


Figure 129: Model Sequence Variable Mapping

Figure 130 shows the second model in the sequence with a variable mapped to its input variable.

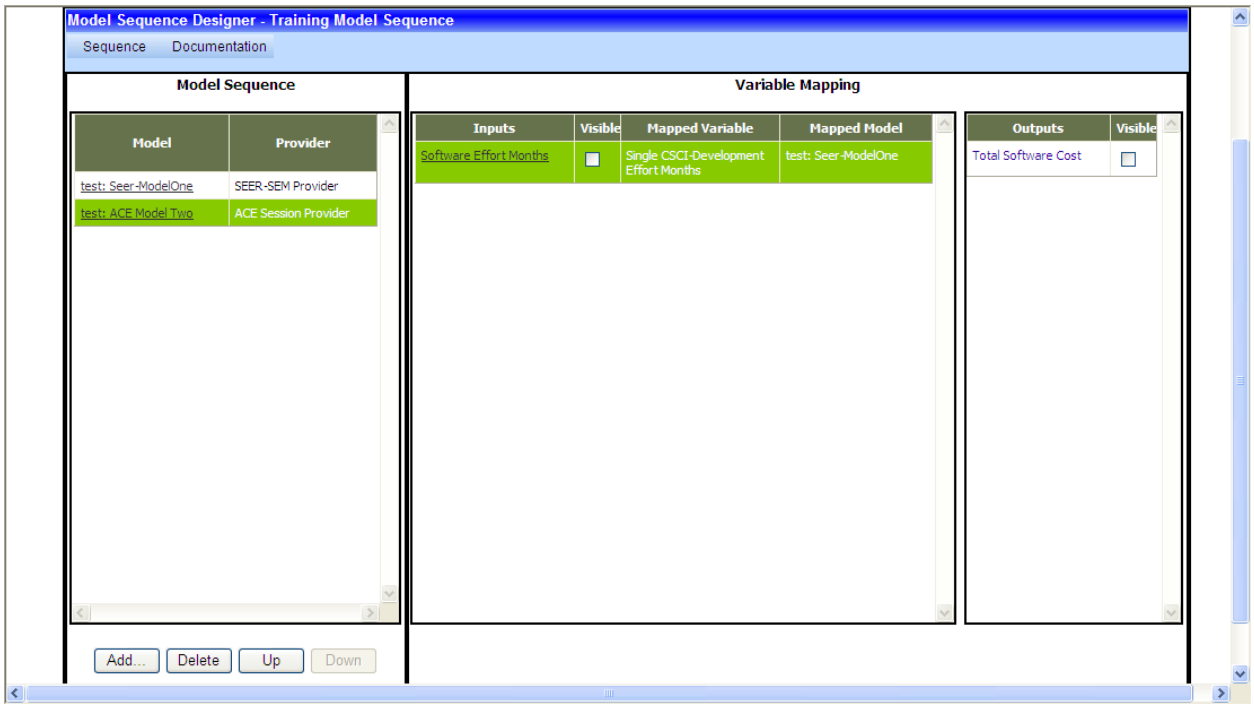


Figure 130: Model Sequence Designer with Second Model with Variable Mapping

Figure 131 shows the third and final model in the sequence with a variable mapped to its input variable and both of its outputs visible to the JIAT user.

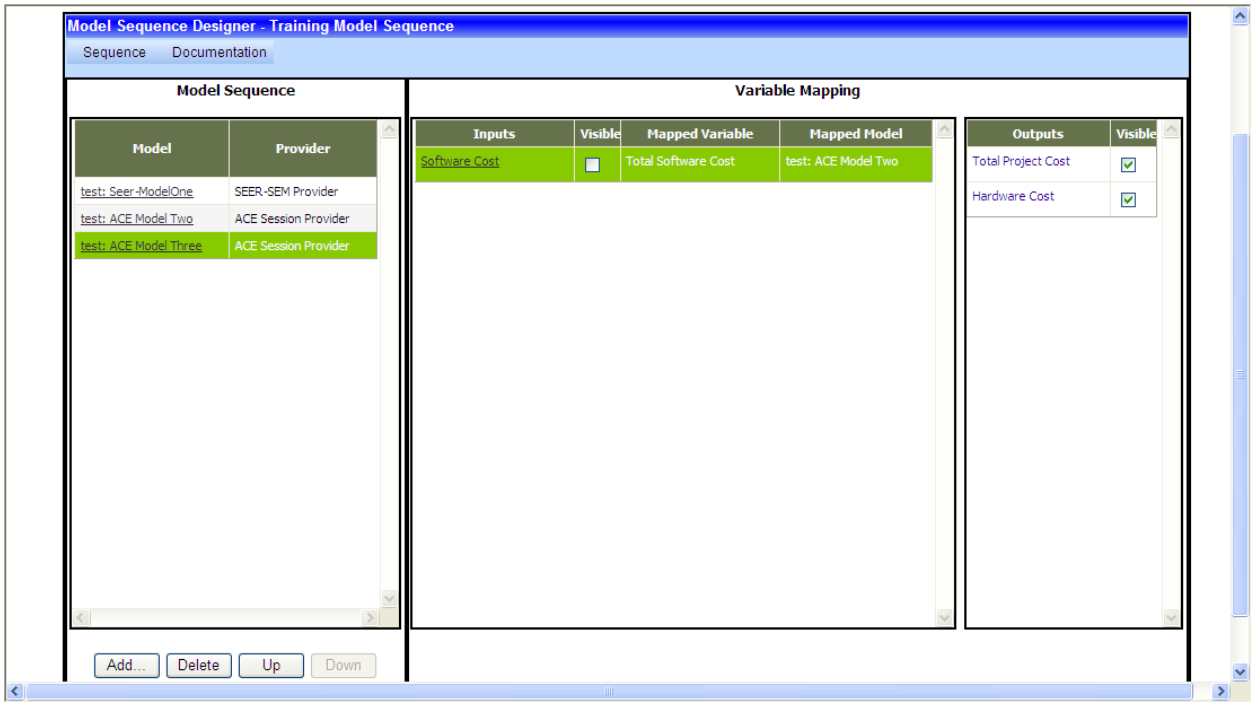


Figure 131: Model Sequence Designer with Third Model with Variable Mapping

To change the order of the models in the sequence use the Up and Down buttons. Once the sequence is complete you can save it as shown in Figure 132 by selecting **Sequence>Save** or Save as.

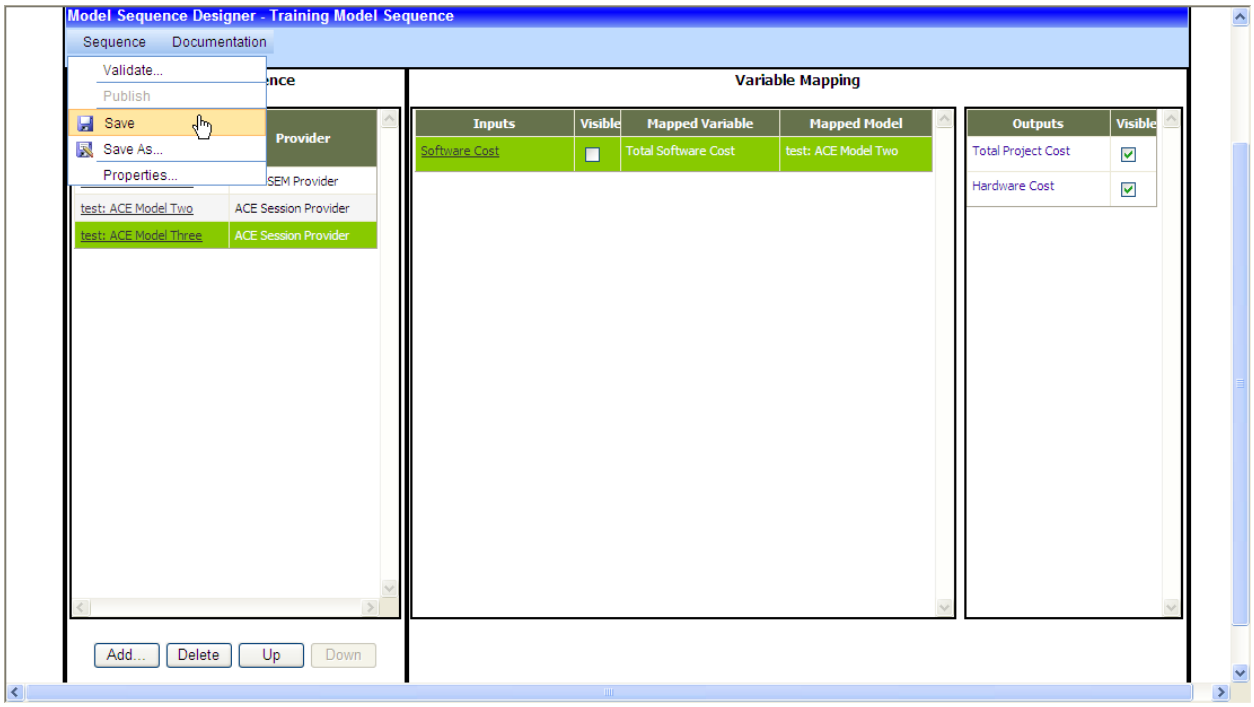


Figure 132: Model Sequence Saving

You can enter documentation for the model sequence using the Documentation menu item.

JIAT Model Sequence Properties:

You can specify run properties for your model sequence with the **Sequence>Properties** menu item. Here you can specify the Base Year, Cost Units, Inflation Table, Appropriation Type, Phase, Subject, Commodity and Domain Type for you model sequence. This is important so that all the cost models in the sequence are producing results in a common Base Year and units.

Note: The inflation tables and inflation types must be the same for all the models in the sequence in order for the sequence to validate.

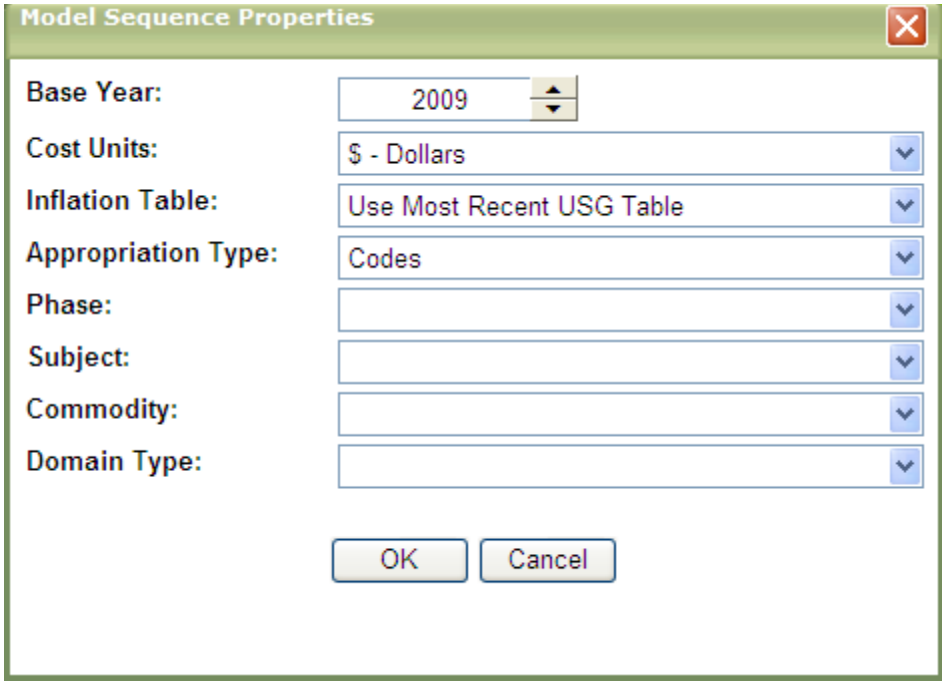


Figure 133: Model Sequence Properties

Validating a JIAT Model Sequence:

Given all the links created in a model sequence it is important to test to verify that all the links are valid and appropriate. The **Sequence>Validate** menu item can help you do this. The validation produces a model sequence error log similar to that shown in Figure 134. Follow the error log items for guidance on how to update the files or sequence definition to produce a valid sequence.

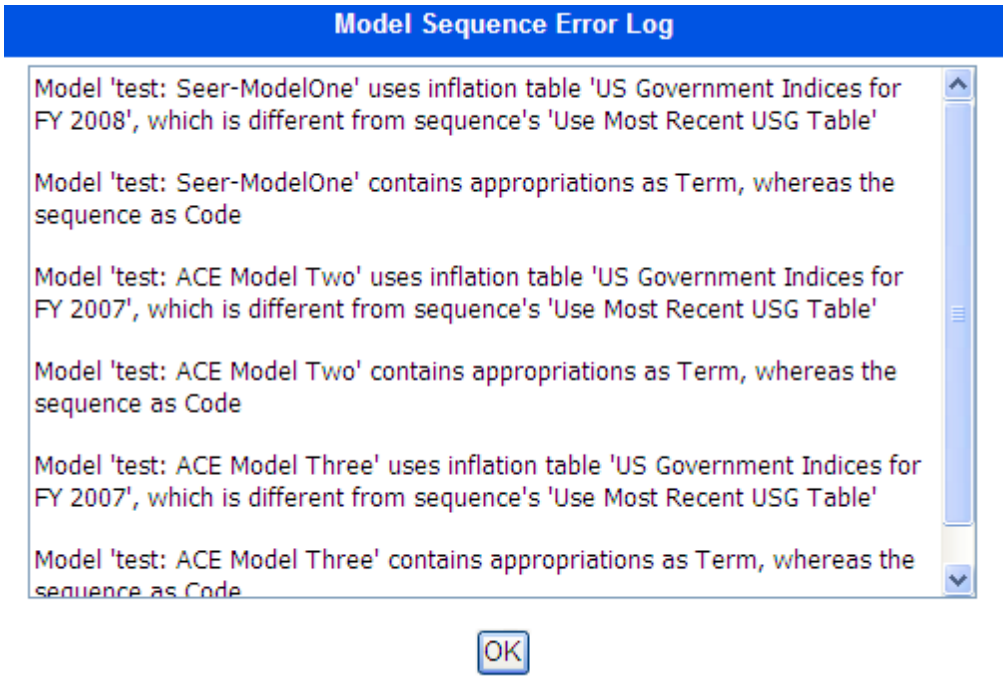


Figure 134: Model Sequence Error Log

Running a JIAT Model Sequence:

A JIAT model sequence is run with the JIAT Model Sequence Provider. To run a sequence go to the JIAT web browser and select **Session>Create New Session**, enter a Session name and select the **Model Sequence Provider** as shown in Figure 135.

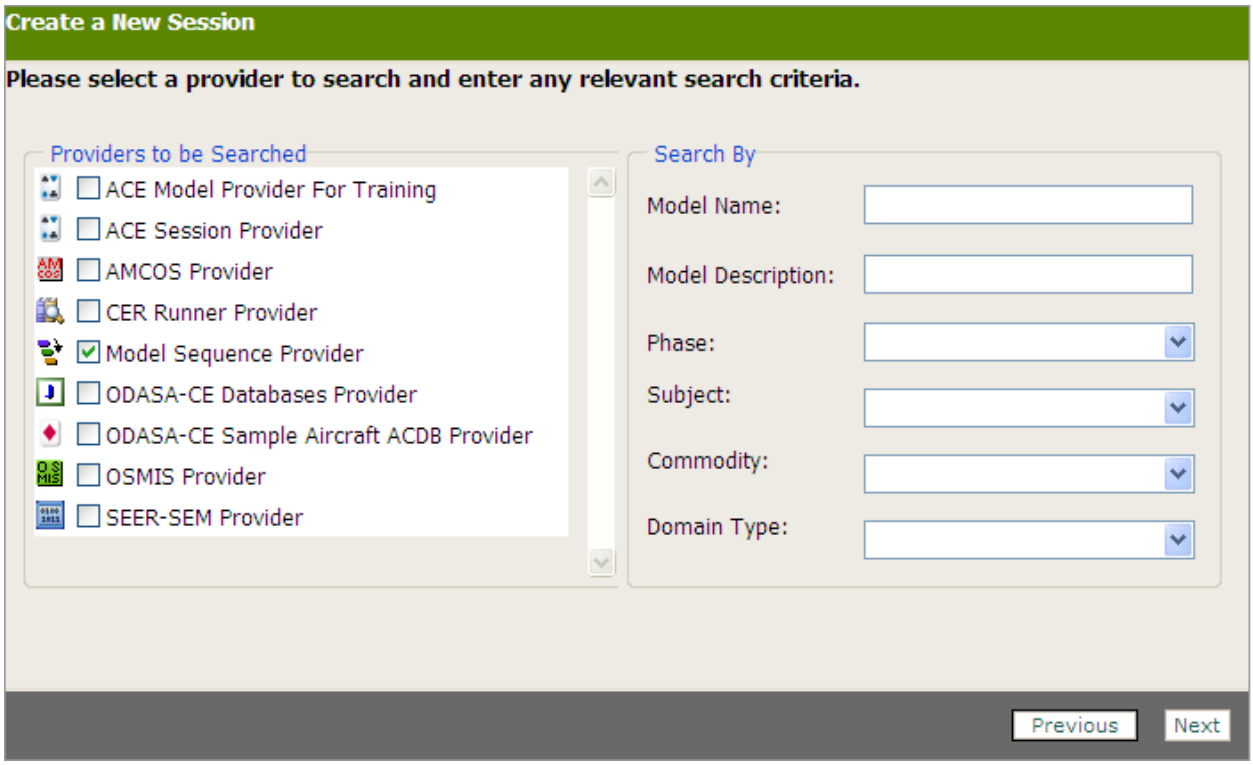


Figure 135: Model Sequence Provider

Select a Sequence to run (see Figure 136).

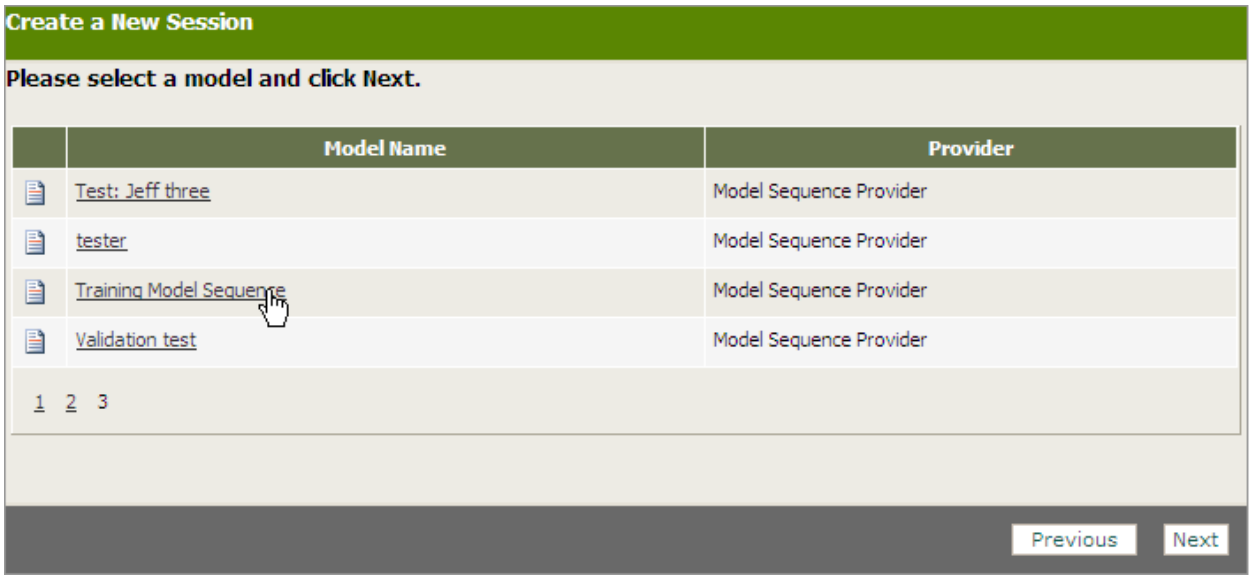
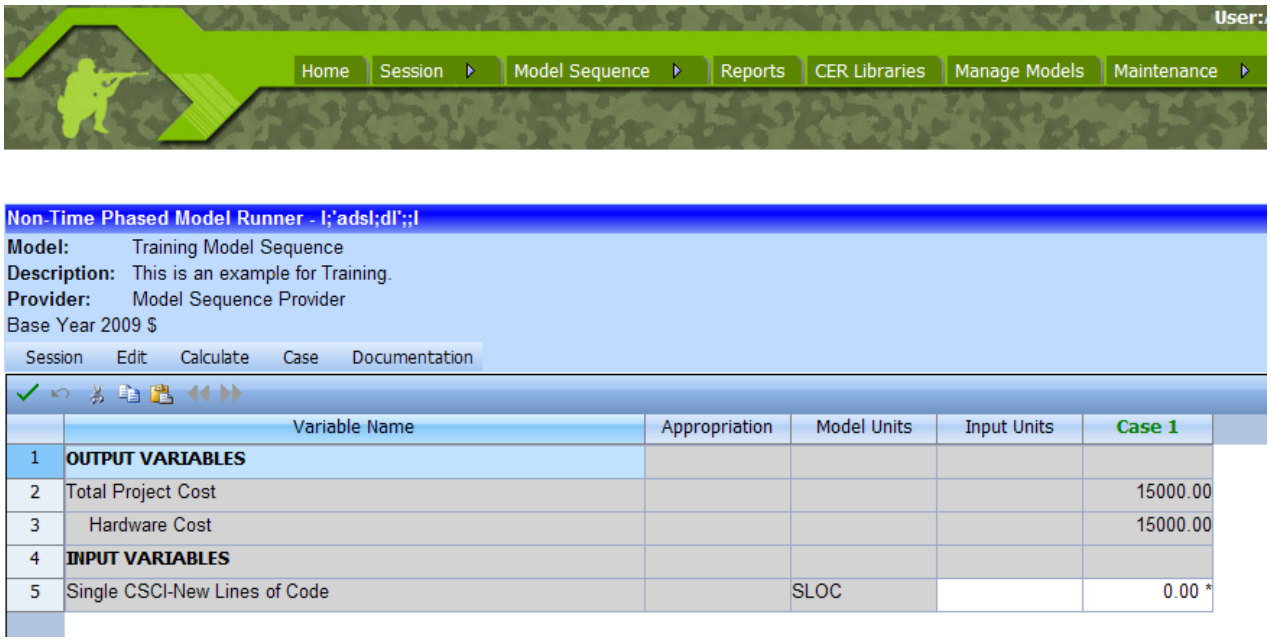


Figure 136: Select a Model Sequence to Run

The model sequence is displayed as a model in the Model Runner Provider. Figure 137 shows our example model sequence. Notice that only the elements that we checked as visible appear in the Model Runner viewer. The other elements and links are running in the background.



	Variable Name	Appropriation	Model Units	Input Units	Case 1
1	**OUTPUT VARIABLES**				
2	Total Project Cost				15000.00
3	Hardware Cost				15000.00
4	**INPUT VARIABLES**				
5	Single CSCI-New Lines of Code		SLOC		0.00 *

Figure 137: Running a Model Sequence

CONTRIBUTING TO JIAT DATA

There are two main items that can be posted to JIAT: CERs and models. Certain JIAT users will have the ability to post CERs and estimating models for other users to search and run. This section shows you how to post CERs and models to JIAT.

We will cover the following Chapters in this section:

- CHAPTER 14 – POSTING CERS TO JIAT
- CHAPTER 15 – POSTING MODELS TO JIAT

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CHAPTER 14 – POSTING CERS TO JIAT

CER Libraries and CERs can be added to JIAT by those with contribution privileges. Users can the search for, run and integrate the CERs in their estimates. In this section we will learn to create and navigate CER libraries and post CER to library in JIAT.

CER Libraries:

You can work with existing and create you CER Libraries with the CER Libraries menu item. Figure 138 shows the JIAT CER Library main page. On the left side of the page, CER libraries are listed. The icons at the top left allow you to create or edit libraries as noted below. If you click on one of the libraries at the left, its associated CERs are displayed.

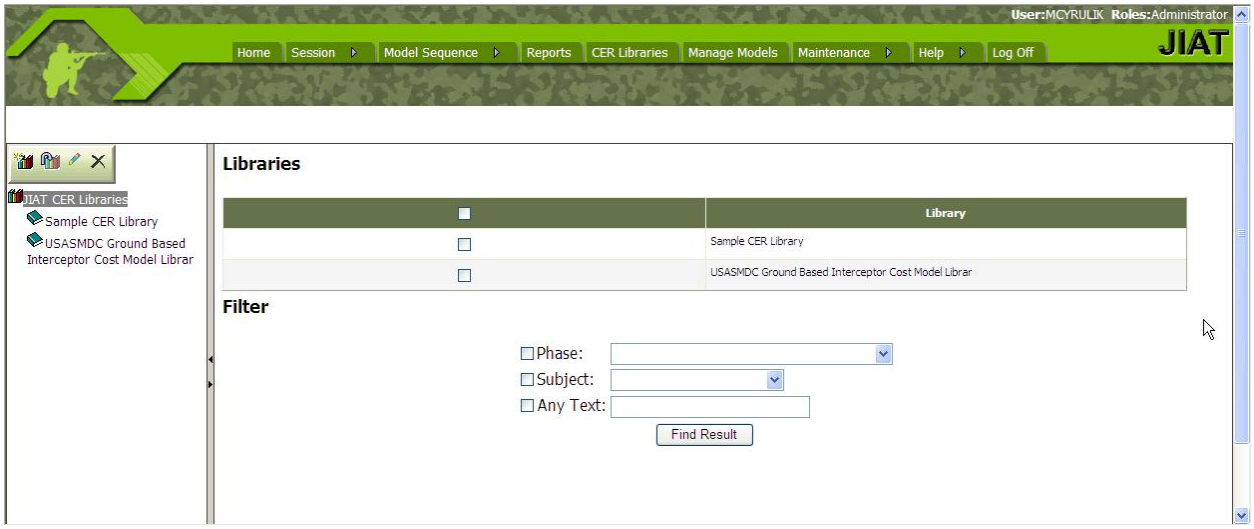


Figure 138: JIAT CER Library

You can use the toolbar icons to add, export, or delete CERs.

 - Create new library

 - Import CER

 - Edit

 - Delete

You can also search for CERs within a library. Click on CER Libraries to access the main CER page again. You can search one or more libraries by Phase, Subject, or Any Text contained within the CER description.

Click the check box at the top to search all the libraries or just check the boxes next to a few different libraries to search them. If you search a library without specifying any phase, subject, or keywords, all the CERs in your library (including CER groups) are displayed.

On the Search Results page, the CER's and their equations are displayed. Click on Title to arrange the CERs alphabetically, or click Equation to list the CERs by their equations.

- Click the pencil icon to edit the CER.

- Click Modify Search to return to the Libraries page, where you can change the search criteria.

The CER Libraries page is split into two frames: one containing the list of libraries and the other containing information about the libraries or CERs themselves. Click on the top arrow of the divider to expand the Libraries/CER information pane to the left. Click on the bottom arrow to expand the list of libraries to the right.

Creating and Editing Libraries:

IT is recommended that you create new libraries to help organize your CERs thus making it easier for analysts to locate them. To add a new library:

- Click the Add new library icon to add a new library. Enter the name of the library in the Title field as well as a brief description (see Figure 139).
- Click Save. The library is included in the list of libraries on the left side of the page.

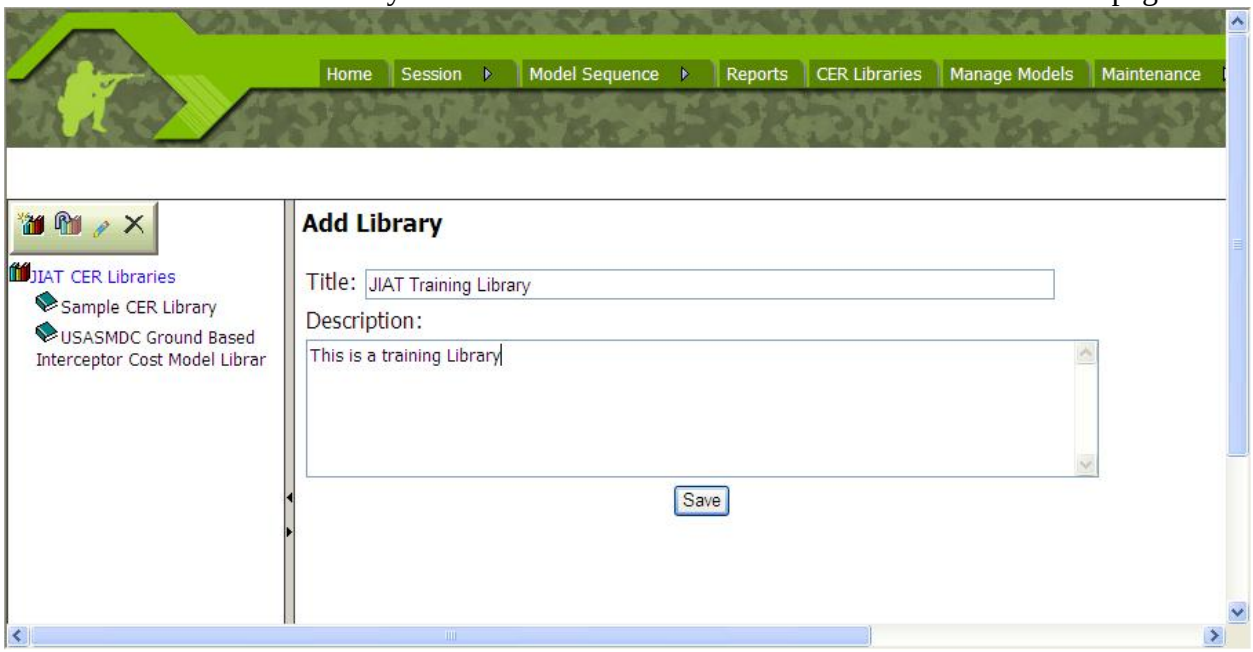


Figure 139: Add New JIAT CER Library

Import Library:

An existing library can be uploaded to the JIAT server. JIAT can import libraries that were created using ACEIT's Librarian tool. Note: Only zip files can be imported. Click on the Import Library icon to import a library and then click Browse on the import page (see Figure 140).

Figure 140: Import CER Library

ACEIT libraries are saved by default in the My Documents\ACEIT Data\Libraries folder. Choose the zip file you wish to import and click **Upload** to import the data. All the libraries contained within the zip file are displayed. In Figure 141, there are three libraries contained within the "custom.zip" file: Definitions, Demo Library, and Sample CER Library. Only one library can be imported at a time. We are importing the Demo Library.

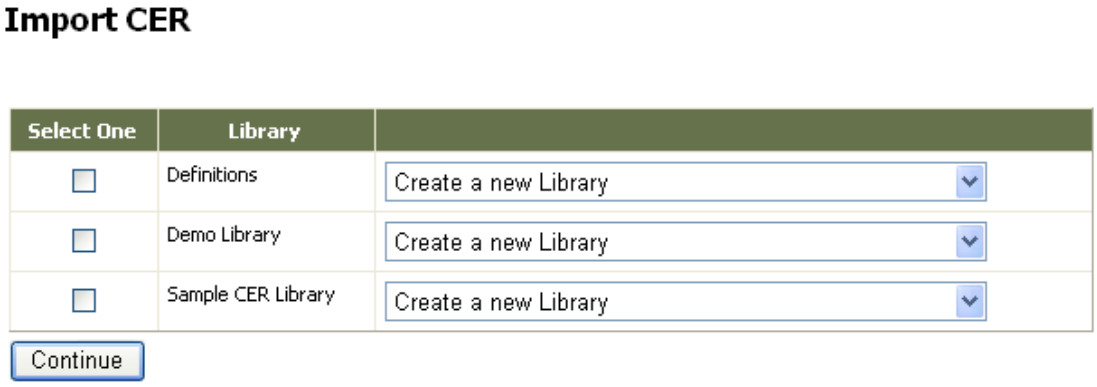


Figure 141: Example CER Library Import File

Click a checkbox to select which library you would like to import as shown in Figure 142. From the dropdown list, select whether you would like to Create a New Library or just add the CERs to an existing library. Then click Continue.

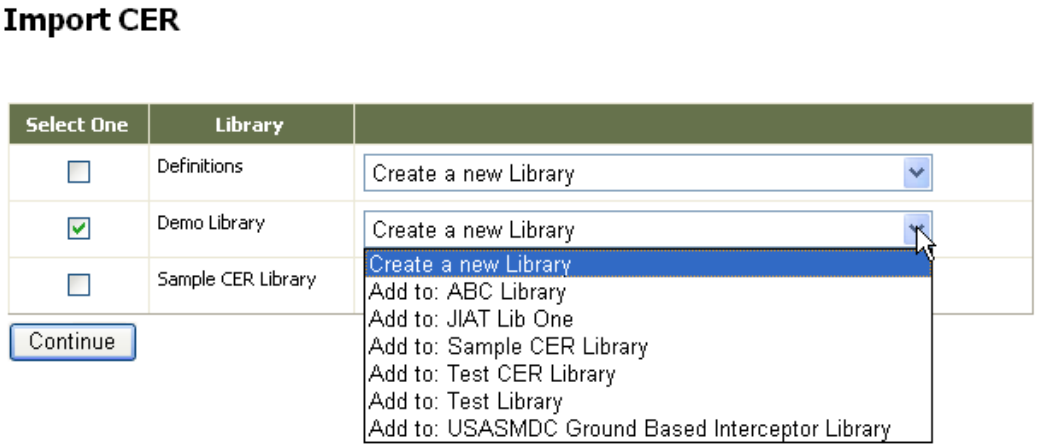


Figure 142: Example CER Library Import File Selection

If you Create a New Library, the library is added to the list of libraries on the left side of the page. All the CERs contained in the library appear in JIAT. You can edit them as usual. The CERs contained in your library can also be added to an existing library.

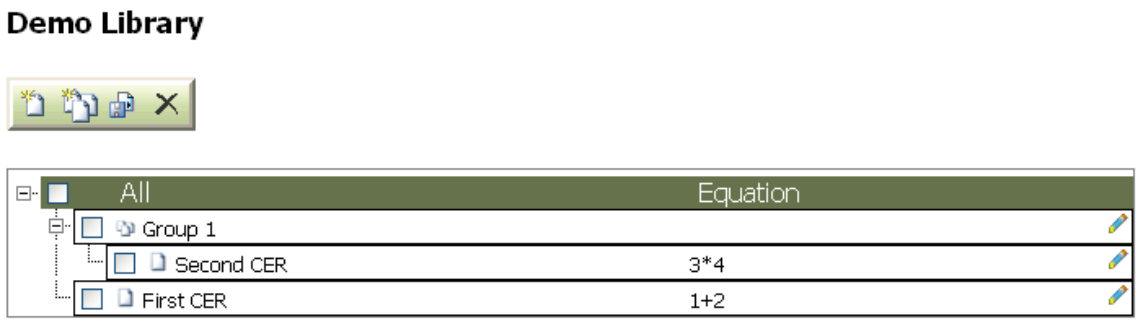


Figure 143: Example CER Library CER Listing

Edit Library:

To edit a library, select the library on the left side of the page and then click the edit icon. You can edit the library's title or description. Click Save to keep these changes.

Delete Library:

You can also delete a library by selecting it on the left side of the page and clicking the delete icon. You are prompted to confirm that you want to delete the library and the library is no longer listed on the left side of the page. Only users with permission can delete a CER library.

Adding New CERs to a JIAT CER Library:

To add a new CER to a library first select the library to add the CER to on the left side of the page. Next click the **Add CER** icon to create a new CER and fill in information on the Add CER page. Create a title for the CER to describe what the CER estimates. Type the equation into the equation field. Specify any additional information associated with the CER; for learning curves enter the curve specifications like reference cost and learning slope. Enter the burden rates for the CER noting if elements like fee, G&A and overhead are included with the CER data. Enter Phase and Keyword information to help analysts locate the CER with the search parameters. To upload a text definition for the CER click the **Browse** button and search for the definition of the CER. The file must be in Rich Text Format (rtf). Once all the information is entered click **Save** to add the CER to the library. Figure 144 shows an example CER in the Add CER page. You can update the information in this page later by selecting the pencil edit icon.

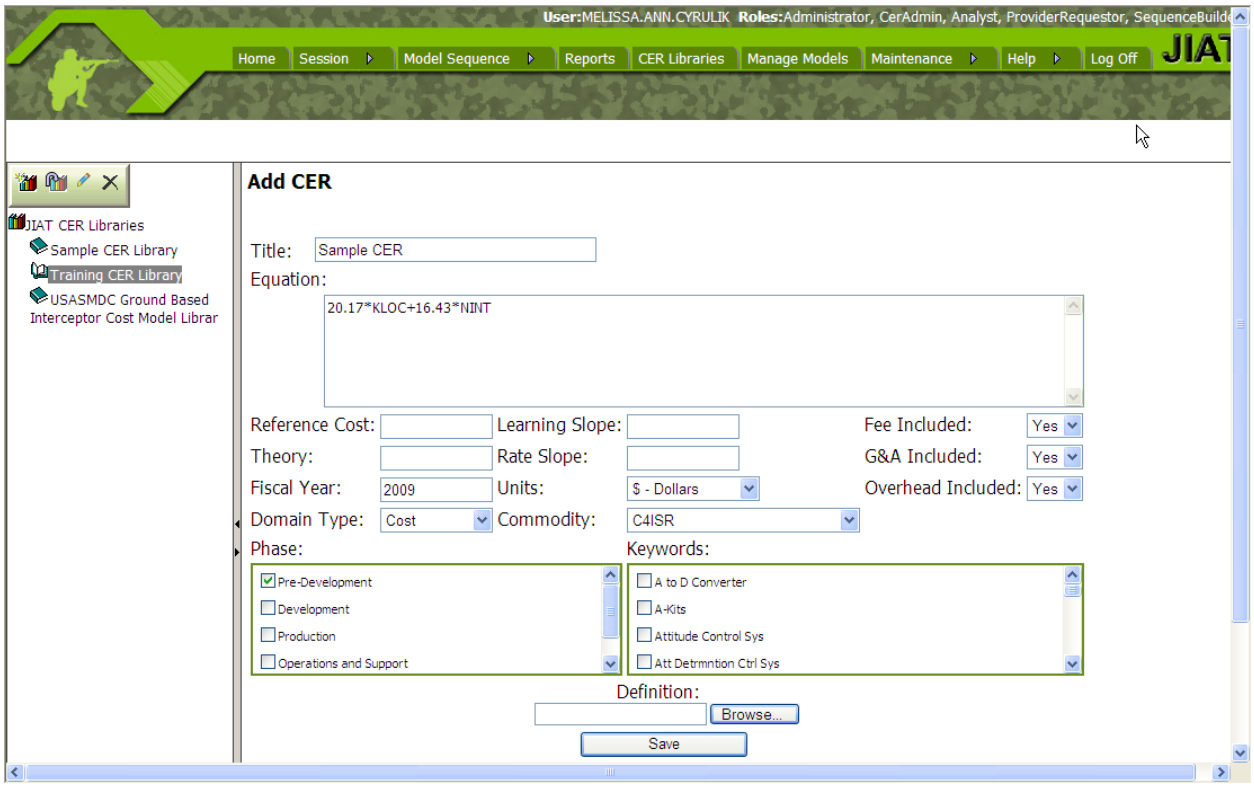


Figure 144: Add a new CER to a JIAT Library

The Editing Page is slightly different than the Add new CER page. When editing a CER you can update the definition file by clicking on Definition File to view the definition that you previously uploaded (see Figure 145). You will be prompted to open or save the definition. Note that if you did not originally upload a definition when creating the CER, you will see, "Definition: N/A" in replace of "Definition: Definition File." You must use the "Upload New Definition" button to add a definition.

Click **Upload New Definition** if you would like to replace the old definition with a new one. You can then browse for the new definition. Click Save to keep your changes or click Delete to delete the entire CER.

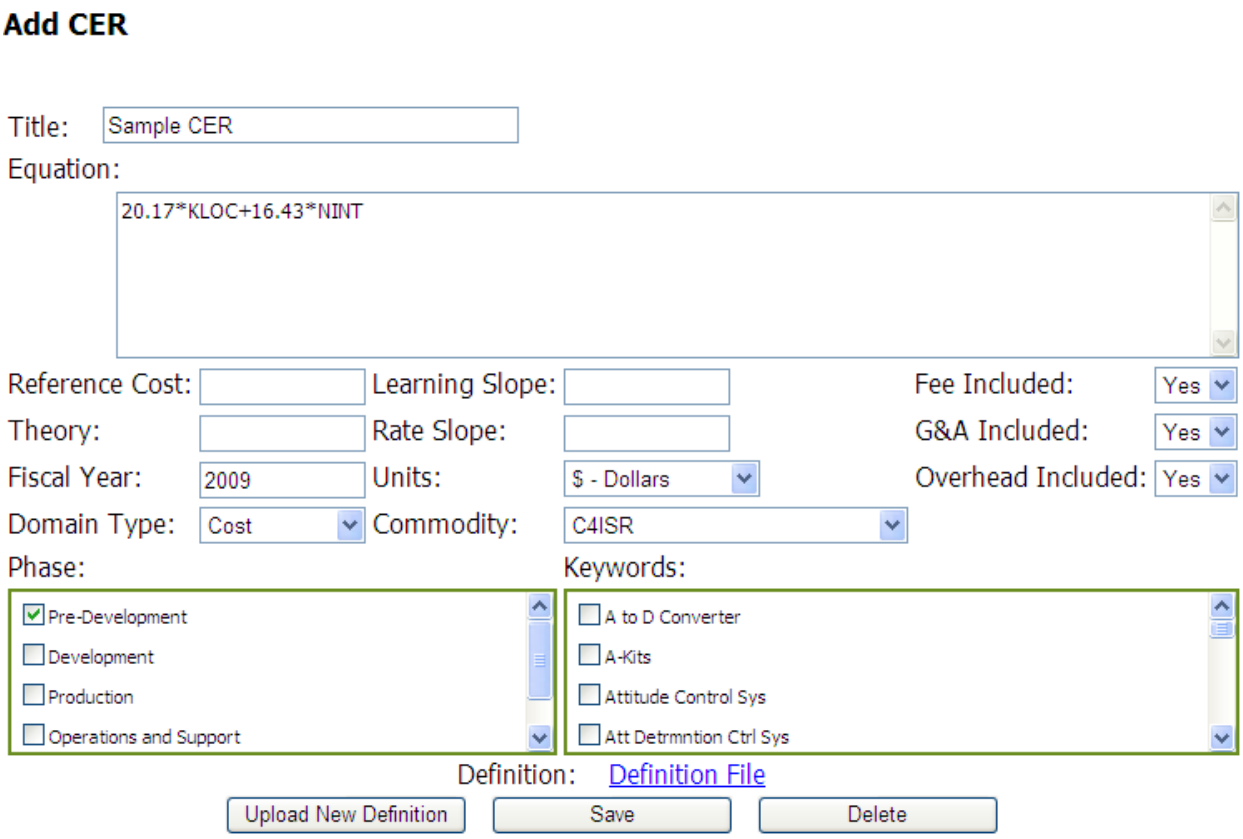


Figure 145: Editing a CER in a JIAT Library

Adding New CER Groups to a Library:

You can group CERs by categories to make it easier for analysts to locate CERs. Click the **Group** icon to add a new group of CERs (see Figure 146). Type in the Title of the CER group and click **Browse** to upload a definition (must be in rtf). Click **Save** to add this group and the group appears on the list of CERs.

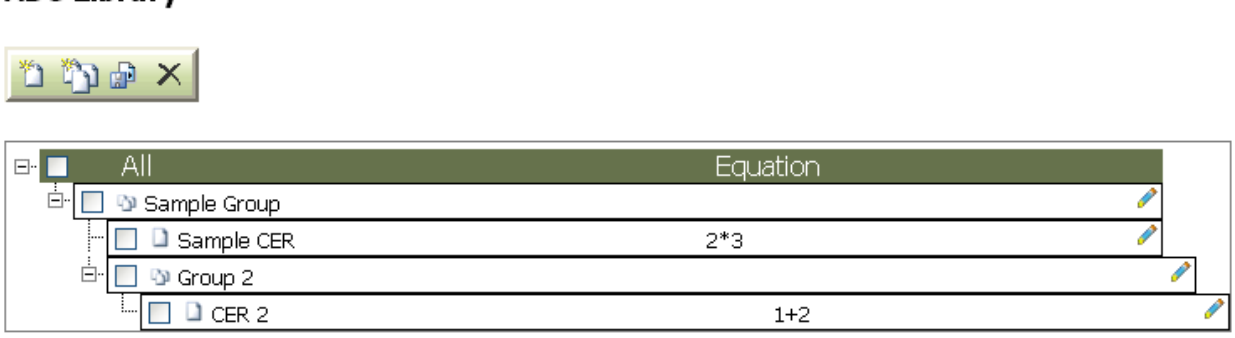


Figure 146: CER Library Groups

Click on the Edit icon to edit the group. You can change the title or upload a new definition.

The Definition File, Upload New Definition, Save, and Delete buttons work in the same manner as the buttons on the Edit CER page. To add CERs to the group, click on a single CER and drag it under the parent (group) CER.

You can create a full indenture structure to organize CER in a library. If you would like to create indenture levels, you must create a group within a group.

Exporting CERs to an External Location:

You can export a CER from JIAT and import into an ACE CER Library using ACEIT Librarian. This is a four step process.

- Select the CER by clicking the check box, and then click the export button.
- A dialog will appear asking if you would like to Open or Save the file.
- The file is downloaded in a zip file. You need to extract the zip documents to proceed.
    - If the CER is part of a group, both the group definition and the individual CER definition are downloaded. For instance, since the "Sample CER" is indented under the "Sample Group" in the document tree, definitions for both the child and the parent will be downloaded.
- The definitions are exported with a .rtf extension.

Deleting a CER from a JIAT Library:

To delete a CER, first select the CER by clicking the check box, and then click the delete button. A dialog box will pop up to confirm deletion. The entire CER (including its definition) will be deleted. If you select a group to be deleted, the group and all its children CERs will be erased. Only users with permissions can delete CERs

CHAPTER 15 – POSTING MODELS TO JIAT

For JIAT users to be able to work with engineering and cost estimating models they must be loaded onto the JIAT website. JIAT requires directions for each file to know how to run it. For example, we must tell JIAT which rows in the file are input and output variables. In addition, we can provide information about the units for the rows. The process for entering these directions into model files is different depending on the Provider. In this section we will learn how to set up SEER-SEM and ACE files to be loaded onto JIAT and we will learn how to load the files onto the JIAT website.

Posting Models:

Posting models is a two step process. First, you need to provide the directions for the model Providers to render the session in the JIAT interface and second, you need to load the model files onto the JIAT website. Only users with permission can upload files onto the JIAT server.

JIAT Set-up for ACE files:

JIAT can recognize the inputs and outputs of an ACE model by their External Type. The External Codes and Types are shown on the WBS/CES and Custom 1 workscreens in ACE. The process for setting up the directions for JIAT is the same as the set-up for working with POST. There are three options for the Type that provide directions to JIAT.

- OUTPUT – rows result can be viewed in JIAT
- INPUT – rows result can be viewed and edited in JIAT
- BLANK – row is hidden from JIAT user; the row is calculated as part of a JIAT calculation but you cannot see it with the JIAT interface.

Note comment rows cannot be viewed from the JIAT website or clients.

Figure 147 shows sample External Types for an example ACE session.

	WBS/CES Description	Approp	Unique ID	Phasing Method	Equation / Throughput	Fiscal Year	Units	External Code	External Type
15	**'Estimate**		**'Estimate**					**'Estimate**	**OUTPUT**
16	Total							Total$	OUTPUT
17	Manufacturing		PMP$					PMP$	OUTPUT
18	Air Vehicle	3010	AV$	F	AV_UC$ * BuyQty			Ant$	OUTPUT
19	Integration	3010		F	0.15 * AV$			Integratio$	OUTPUT
20	SEPM	3010		F	0.37 * PMP$			SEPM$	OUTPUT
21	Other	3080		TY	[Cost Throughput]		$K	Other$	OUTPUT
22								*ACE5	OUTPUT
23	**'IIIPUT VARIABLES**		**'III_VAR**					*ACE6	OUTPUT
24	Air Vehicle Unit Cost	3010	AV_UC$	C	(959 * TW ^ .243 + 189 * RANGE ^	2000	$K	ANTUC$	INPUT
25	Air Vehicle Buy Quantity		BuyQty	IS	[Input Throughput]			BuyQ	INPUT
26								*ACE7	OUTPUT
27	**'Technical/Performance Characteristics**							*ACE8	OUTPUT
28	Air Vehicle Takeoff Weight (lbs)		TW	C	12000			TW	INPUT
29	Air Vehicle Range (nmi)		RANGE	C	250			RANGE	INPUT

Figure 147: ACE External Code and Type as JIAT Directions

Adding Unit Information to JIAT Hosted ACE Files:

JIAT uses a universal units conversion mechanism to allow JIAT users to enter inputs in units other than those set for the input in the model. As introduced in Chapter 8 JIAT makes a distinction between model units and input units.

Model units are the units used within a model where the methods of the model are set up to calculate properly.

Input units are the units for an input into the model using the JIAT interface.

The universal units conversion mechanism allows a JIAT user to enter an input in the sources unit type and then JIAT will convert it to the models unit. This makes it easier for the user to enter inputs into JIAT and ensures that unit conversions are applied consistently. In ACE cost units are specified within the models structure by means of the appropriation, Fiscal Year, and Units inputs but, non cost units are not part of the ACE tool set. To take full advantage of the units conversion feature in ACE you can add units information to an ACE file using the JIAT ACE Plug-in.

To add non-cost unit information to your ACE session, open your session in ACE and run the JIAT ACE Plug-in. To run the plug-in select **Tools>JIAT ACE Plug-in** as shown in Figure 148. On the JIAT Login screen, select your CAC and agree to the terms to run the Plug in (see Figure 149). You must check to agree to the terms before you can select a certificate.

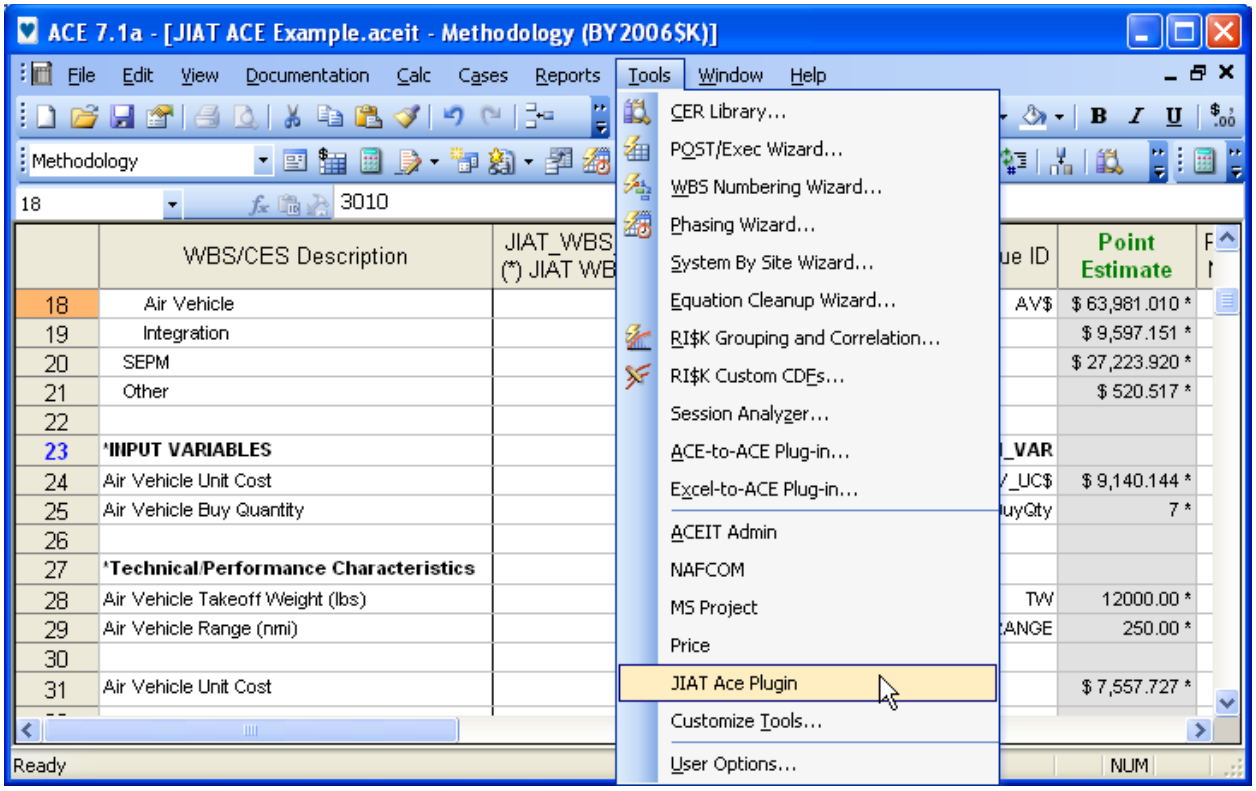


Figure 148: Running the JIAT ACE Plug-in

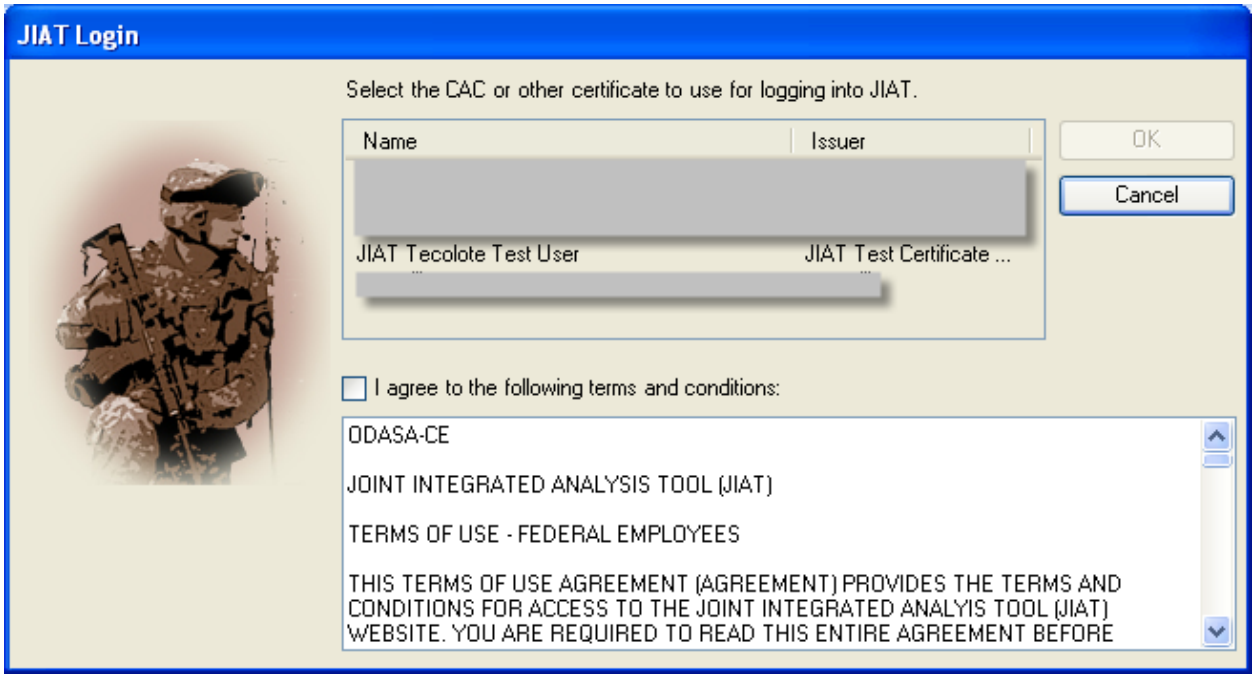


Figure 149: JIAT Login Page

The process of entering unit information into your ACE session is called tagging ACE rows. This option is available under the JIAT Model Publishing area of the JIAT ACE Plug-in. To enter unit information select **Tag ACE Rows** from the dialog shown in Figure 150.

Figure 150: JIAT ACE Plug-in – Tag ACE Rows

You enter the units for the individual rows by selecting a row and pressing the **Set Units** button. Use the Select Units dialog to select a unit category and a unit type. Figure 151 shows both the Tag Session Rows and Select Units dialogs.

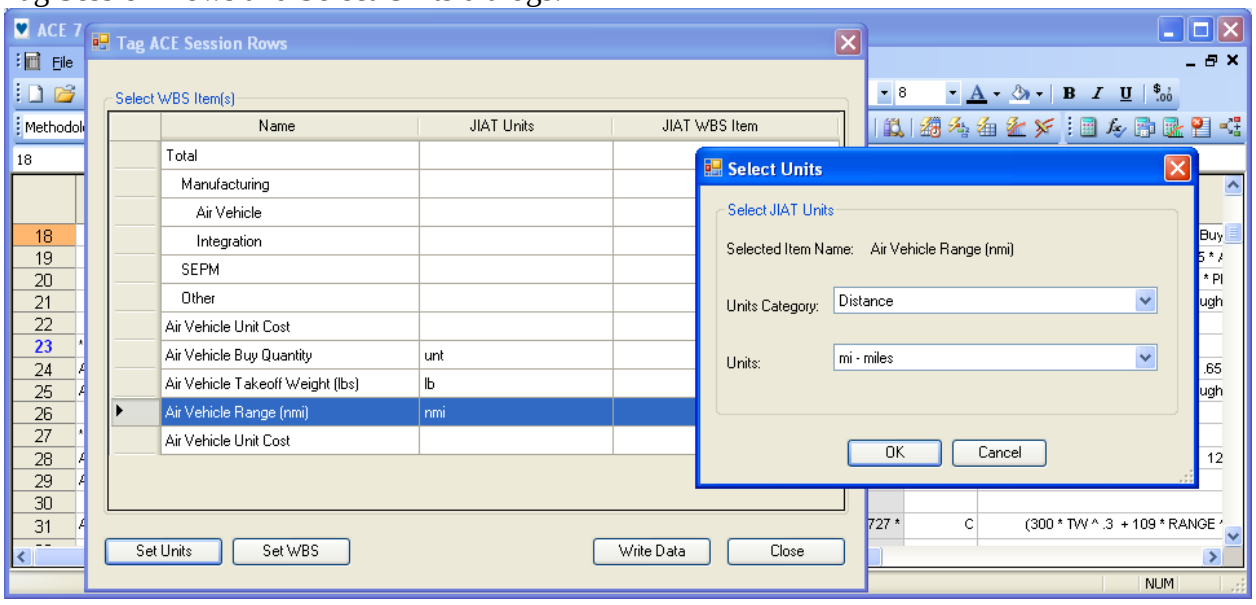
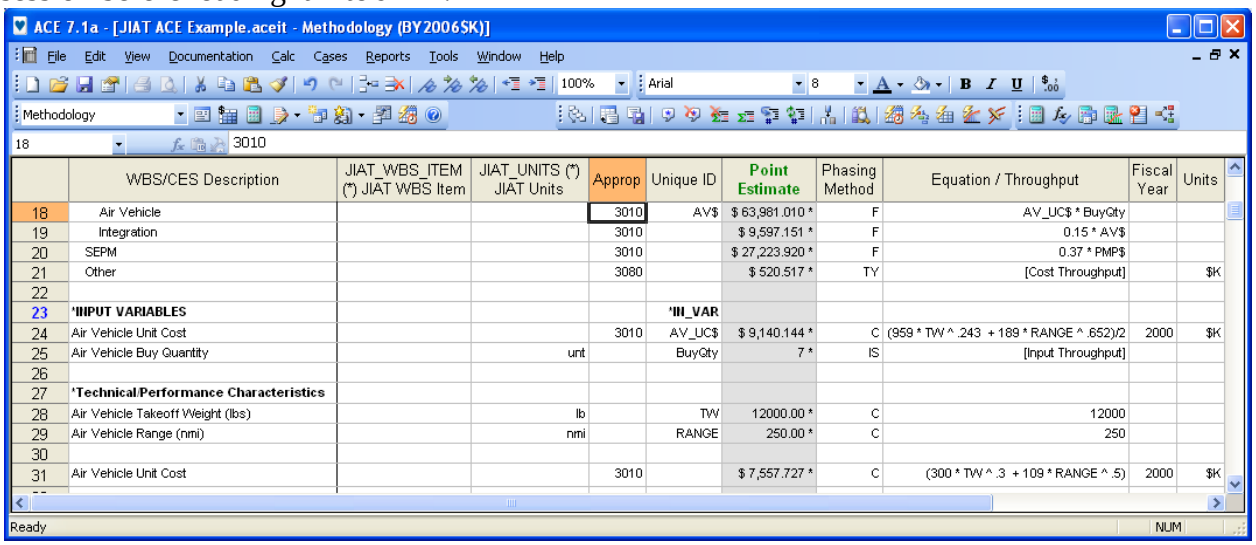


Figure 151: Entering Units in ACE Sessions

You can also use this dialog to enter JIAT WBS Item numbers. Press the **Write Data** button to enter the information into the session. The Plug-in adds DEC columns to your ACE session for the row WBS ITEM and units to be stored in. You can also type directly in these columns to Tag ACE rows. Figure 152 shows a session with rows tagged for JIAT use. Make sure to save the session before loading it into JIAT.



	WBS/CES Description	JIAT_WBS_ITEM (*) JIAT WBS Item	JIAT_UNITS (*) JIAT Units	Approp	Unique ID	Point Estimate	Phasing Method	Equation / Throughput	Fiscal Year	Units
18	Air Vehicle			3010	AV$	$ 63,981.010 *	F	AV_UC$ * BuyQty		
19	Integration			3010		$ 9,597.151 *	F	0.15 * AV$		
20	SEPM			3010		$ 27,223.920 *	F	0.37 * PMP$		
21	Other			3080		$ 520.517 *	TY	[Cost Throughput]		$K
22										
23	**'INPUT VARIABLES**				**'IN_VAR**					
24	Air Vehicle Unit Cost			3010	AV_UC$	$ 9,140.144 *	C	(959 * TW ^ .243 + 189 * RANGE ^ .652)/2	2000	$K
25	Air Vehicle Buy Quantity		unt		BuyQty	7 *	IS	[Input Throughput]		
26										
27	**'Technical/Performance Characteristics**									
28	Air Vehicle Takeoff Weight (lbs)		lb		TW	12000.00 *	C	12000		
29	Air Vehicle Range (nmi)		nmi		RANGE	250.00 *	C	250		
30										
31	Air Vehicle Unit Cost			3010		$ 7,557.727 *	C	(300 * TW ^ .3 + 109 * RANGE ^ .5)	2000	$K

Figure 152: ACE session with JIAT

Loading an ACE file :to the JIAT Website:

To load a model select **Manage>Models** and select a Provider to associate the model with as shown in Figure 153.

Figure 153: Managing Models

After a Provider is selected you will see all the models associated with that Provider. Press the **Add New Model** button to add a model to the list (see Figure 154).

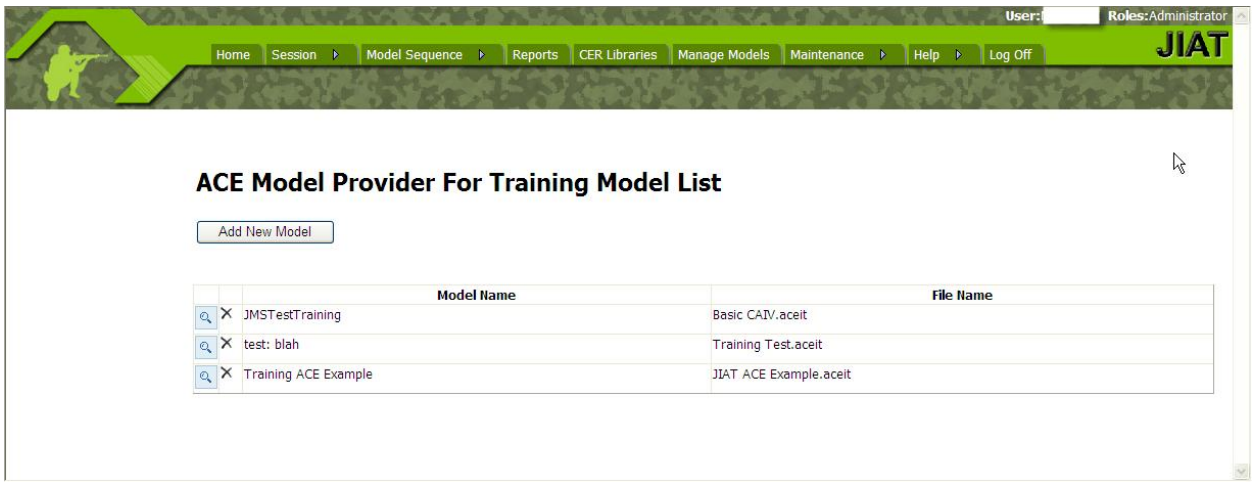


Figure 154: Adding an ACE model to a JIAT Provider

Enter model details for the session to help JIAT users search for the ACE model. Load the ACE file name at the bottom of the page (see Figure 155).

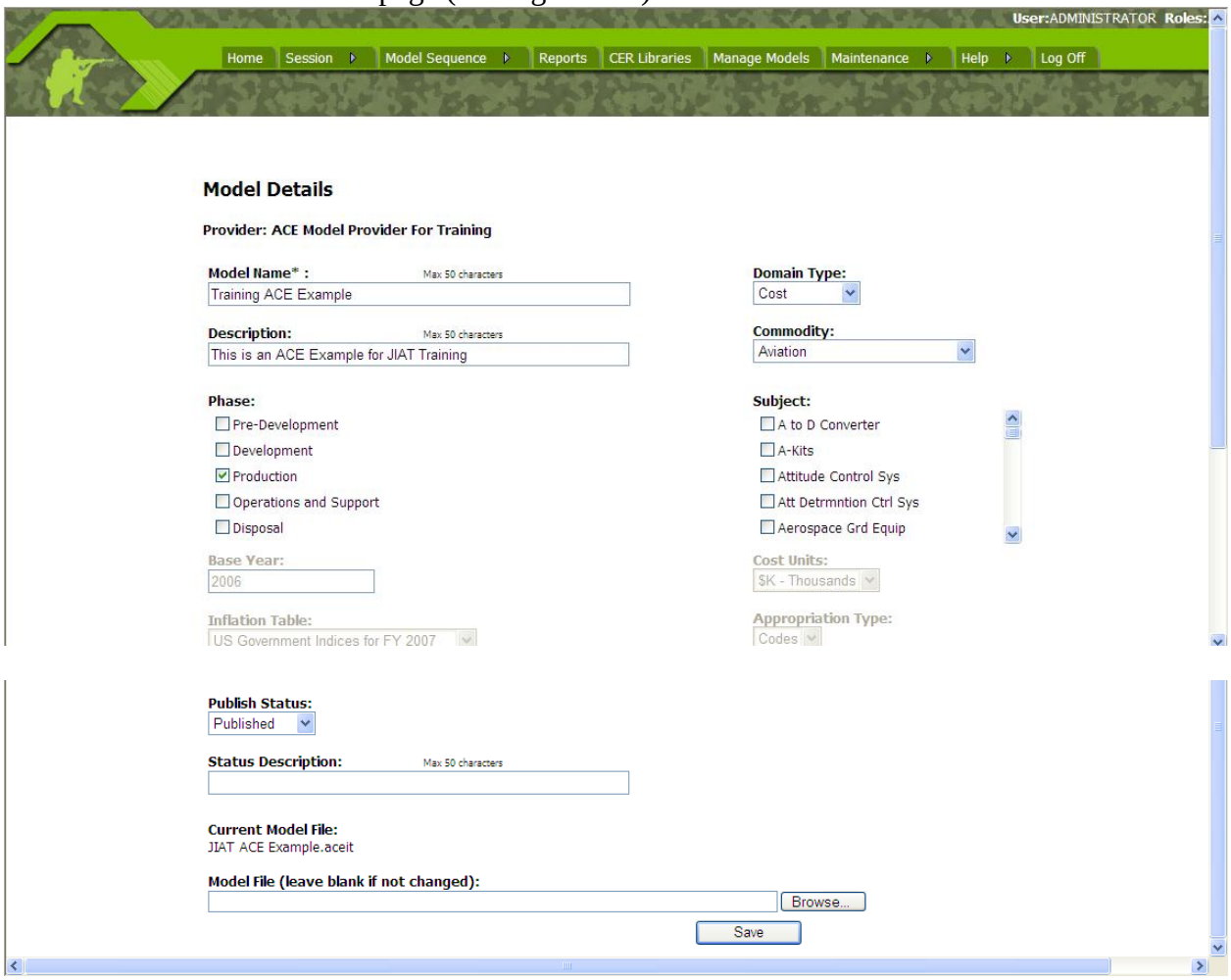


Figure 155: Enter ACE Model Details

JIAT Set-up for SEER-SEM files:

The input and output variables for SEER-SEM files are specified in the row and files Notes of SEER-SEM files. For each row that you would like the user to see and override in JIAT you must enter a Note. The direction for Inputs and Outputs is slightly different. To begin with open SEER-SEM as shown in Figure 156

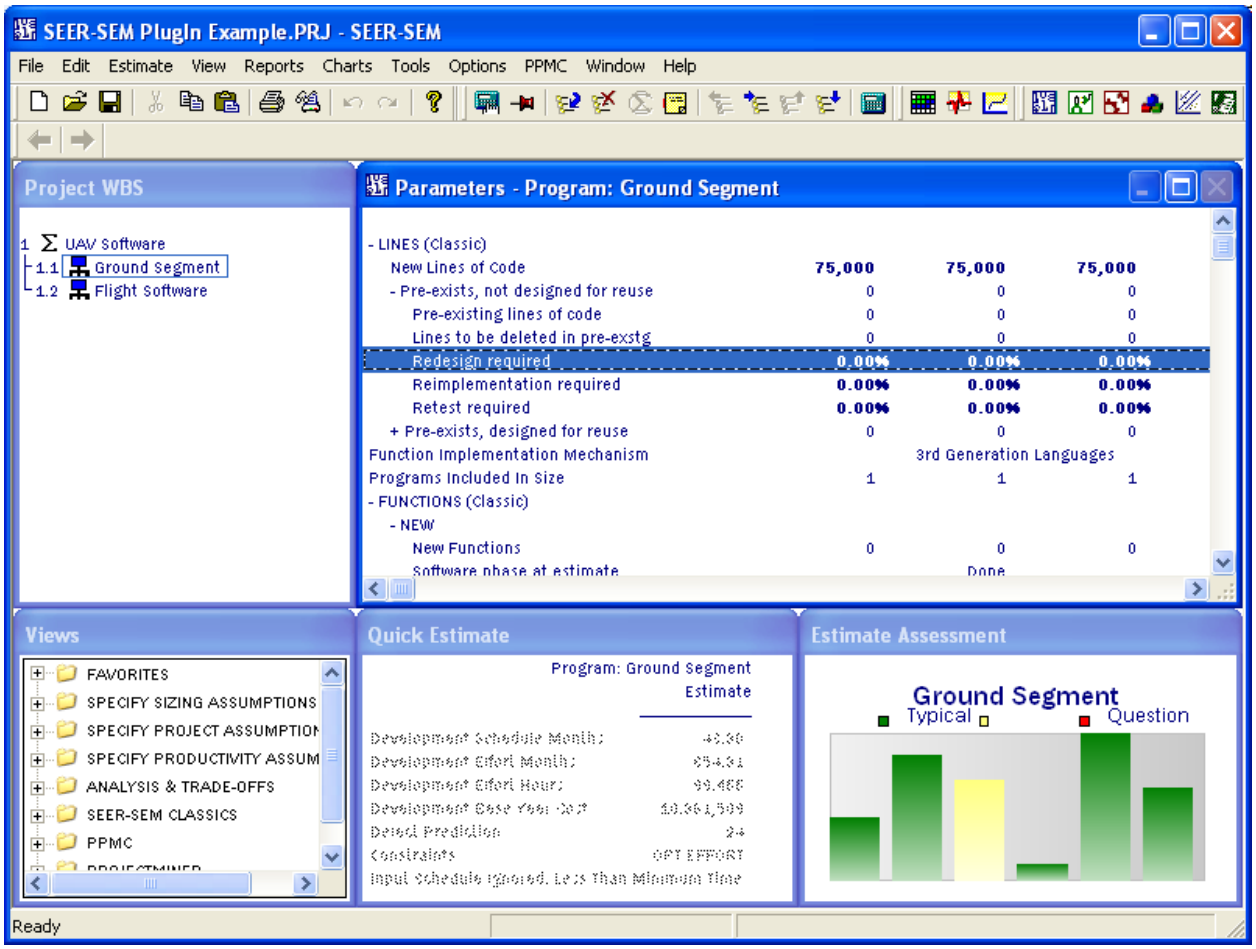


Figure 156: Opening a SEER-SEM file to Set It Up for JIAT

Defining SEER-SEM Input Rows:

To specify a JIAT Input, double click an input parameter. In the Notes section of the parameter, type "INPUT" in all CAPS (see Figure 157). This will be sufficient for non-cost elements.

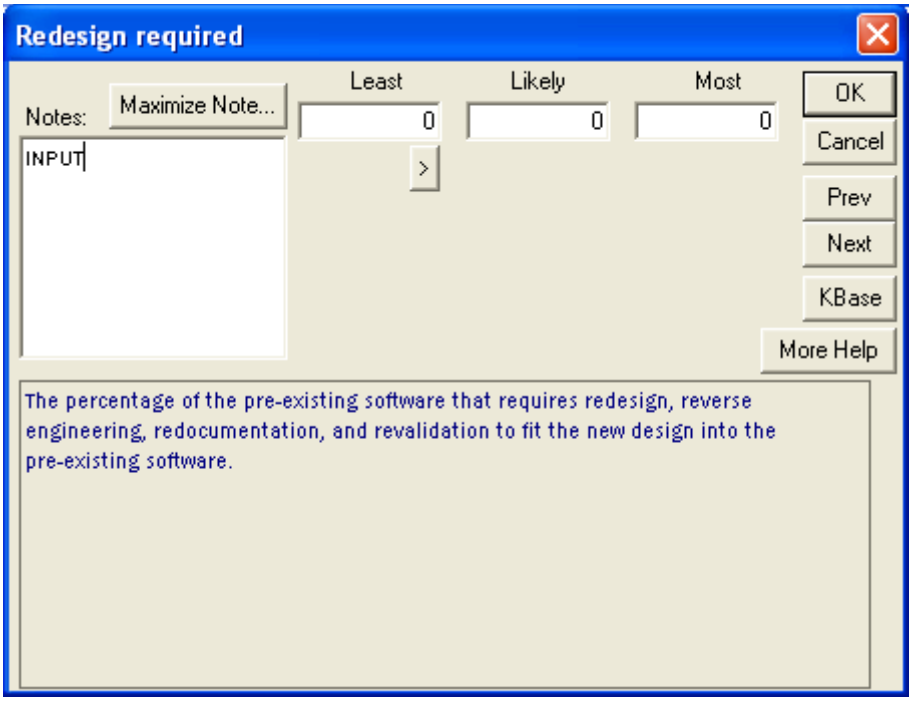


Figure 157: Specify an Input in the Row Notes

For cost elements you must also specify its appropriation. To specify an appropriation and/or a JIAT Standard WBS item for the input, the following format is required also in CAPS:

INPUT(APPROP=AppropriationName|WBSITEM=WbsItemName).

Figure 158 shows the JIAT inputs for an Average Monthly Labor Rate element.

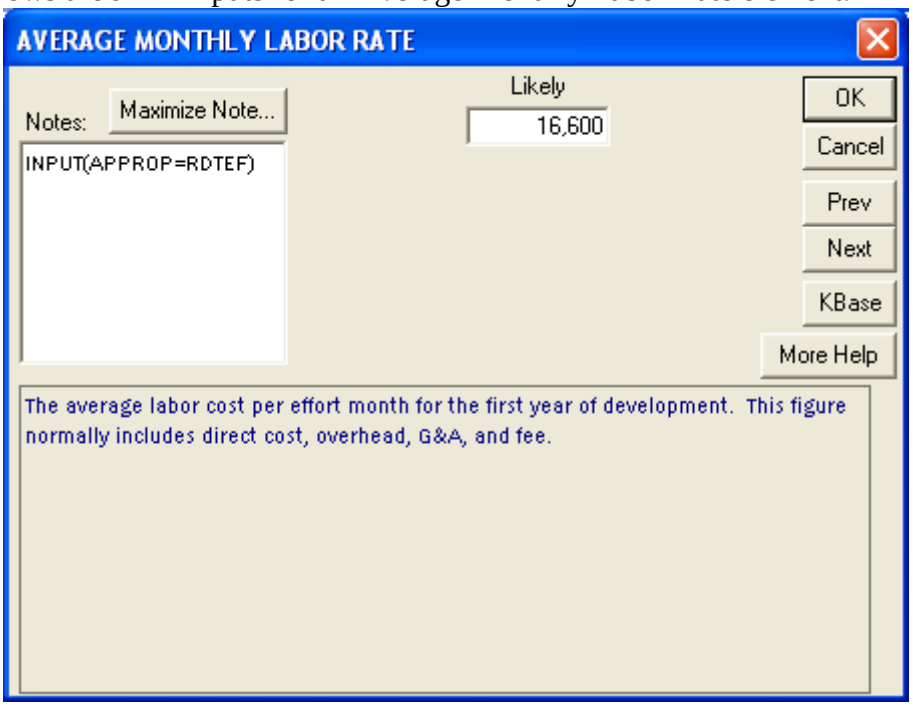


Figure 158: Specify a Cost Input in the Row Notes

In general, each WBS cost element can have both APPROP and WBSITEM specified. The format of the tag must be exactly as shown (i.e. the parenthesis must be included, the tags, APPROP and WBSITEM, must be in all caps and, if specifying both an appropriation and a JIAT Standard WBS item, a vertical bar must separate the tags). Once the note is entered click OK to save and proceed to the other rows.

Defining SEER-SEM Output Rows:

To specify Output rows, select an element in the Project window (see Figure 159).

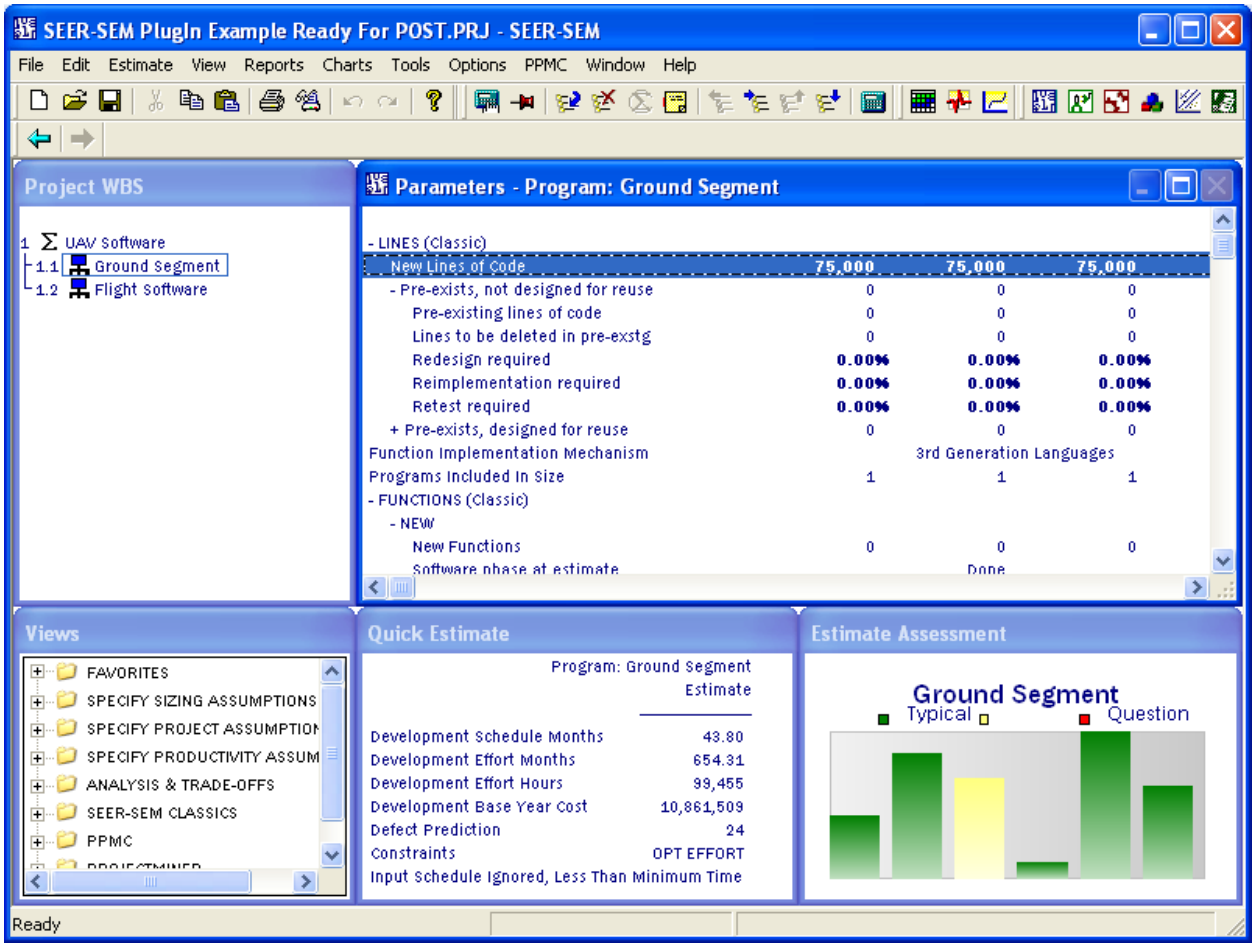


Figure 159: Specify an Output Element

Click **Edit >Element Note**. In the Edit Note dialog, type OUTPUT (in all caps) followed by a colon and the output parameters. Separate the parameters with a comma as shown in Figure 160.

For Cost Element to specify an appropriation and/or a JIAT Standard WBS item for one or more of the outputs, the following format is required:

Output Parameter 1(APPROP=AppropriationName|WBSITEM=WbsItemName), Output Parameter 2(APPROP=AppropriationName|WBSITEM=WbsItemName), …

Similar to input parameters, if an output is a cost item, an appropriation must be specified. Also, each WBS element can have both APPROP and WBSITEM specified, just one, or neither. Table 10 provides the names of all the SEER-SEM output parameters and shows which elements are costs. To complete the row click OK and save.

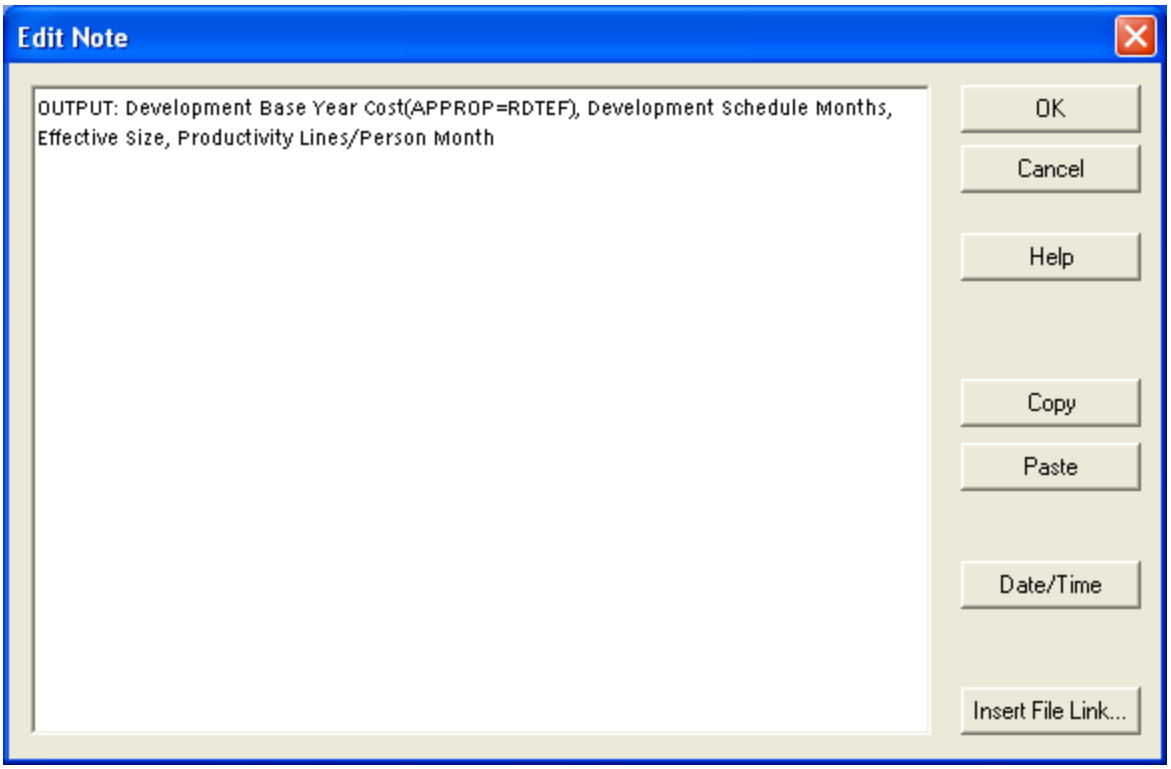


Figure 160: Specify an Output in the File Notes

Table 10: SEER-SEM Output Names

NAMES	IS Cost Element?
Development Effort Months	
Development Hours	
Development Base Year Cost	Yes
Maintenance Effort Months	
Maintenance Base Year Cost	Yes
Cost of Ownership	Yes
Defect Prediction	
Defect Density	
Total Lines Only	
Total Functions Only	
Effective Lines Only	
Effective Functions Only	
Effective Size	
Purchased Items Cost	yes
Productivity Lines/Person Month	
Productivity Functions/Person Month	
Maintenance Schedule Months	
Development Schedule Months	
SEI Equivalent Rating	
Cost Per Effort Unit	Yes
Composite Labor Rate	yes
Constraints	
Peak Staff	
Effort Probability	
Schedule Probability	
Effective Complexity	
Effective Technology	
Basic Technology	

Loading a SEER-SEM file to the JIAT Website:

To load a model select **Manage>Models** and select the SEER-SEM Provider. Press the **Add New Model** button. Enter details about the model and load the SEER-SEM file components. Specify the SEER-SEM Prj, Cdx, Dbf, and Fpt files in the fields provided.

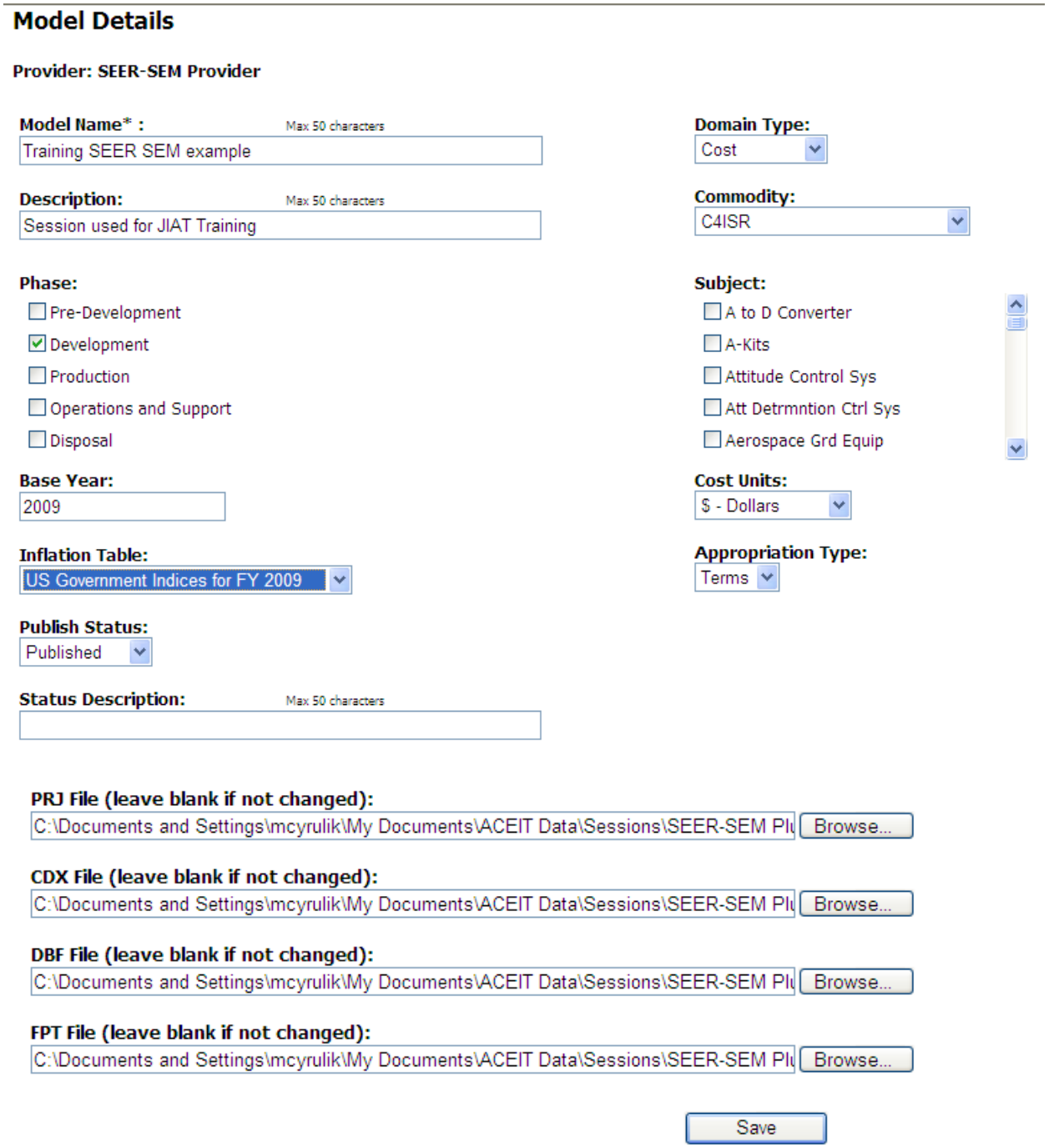


Figure 161: Posting a SEER-SEM Model to JIAT

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ADMINSTRATING THE JIAT WEBSITE

Some users have administrator privileges to the JIAT system that allow them to manage users and user groups. In addition administrators can manage the Providers in JIAT. In this section we will discuss the particulars of managing Providers, users, and user groups.

We will cover the following Chapter in this section:

- CHAPTER 16 – MANAGING JIAT ACCESS

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CHAPTER 16 – MANAGING JIAT ACCESS

Maintaining and managing JIAT access is an important function for a small set of JIAT users given the role of administrator. Understanding JIAT access is critical for administrators but can also be helpful for the general user to understand. In this section we learn about maintaining Provider, Users and User Groups.

JIAT Maintenance:

There are four main items to JIAT maintenance (see Figure 162);

- Provider(s) Request – allows new groups to request permission to submit a new Provider to the JIAT software
- Manage Providers – allows administrators to manage the Providers in JIAT
- Manager Users – used to maintain JIAT user log-ins
- Manage User Groups – used to create and maintain JIAT user groups, users are organized into user groups

Figure 162: JIAT Maintenance

JIAT Providers:

There are two types of Providers in JIAT, internal and external. Internal JIAT Providers are Providers that are developed by the JIAT development team with the intended purpose of being available to wide spread JIAT users. They typically allow you to work with common databases, and tools. External JIAT Providers allows smaller groups of users to develop their own JIAT Providers to be posted on JIAT.

When creating an external Provider you must submit a Provider request to the JIAT website. Figure 163 shows the Provider request form.

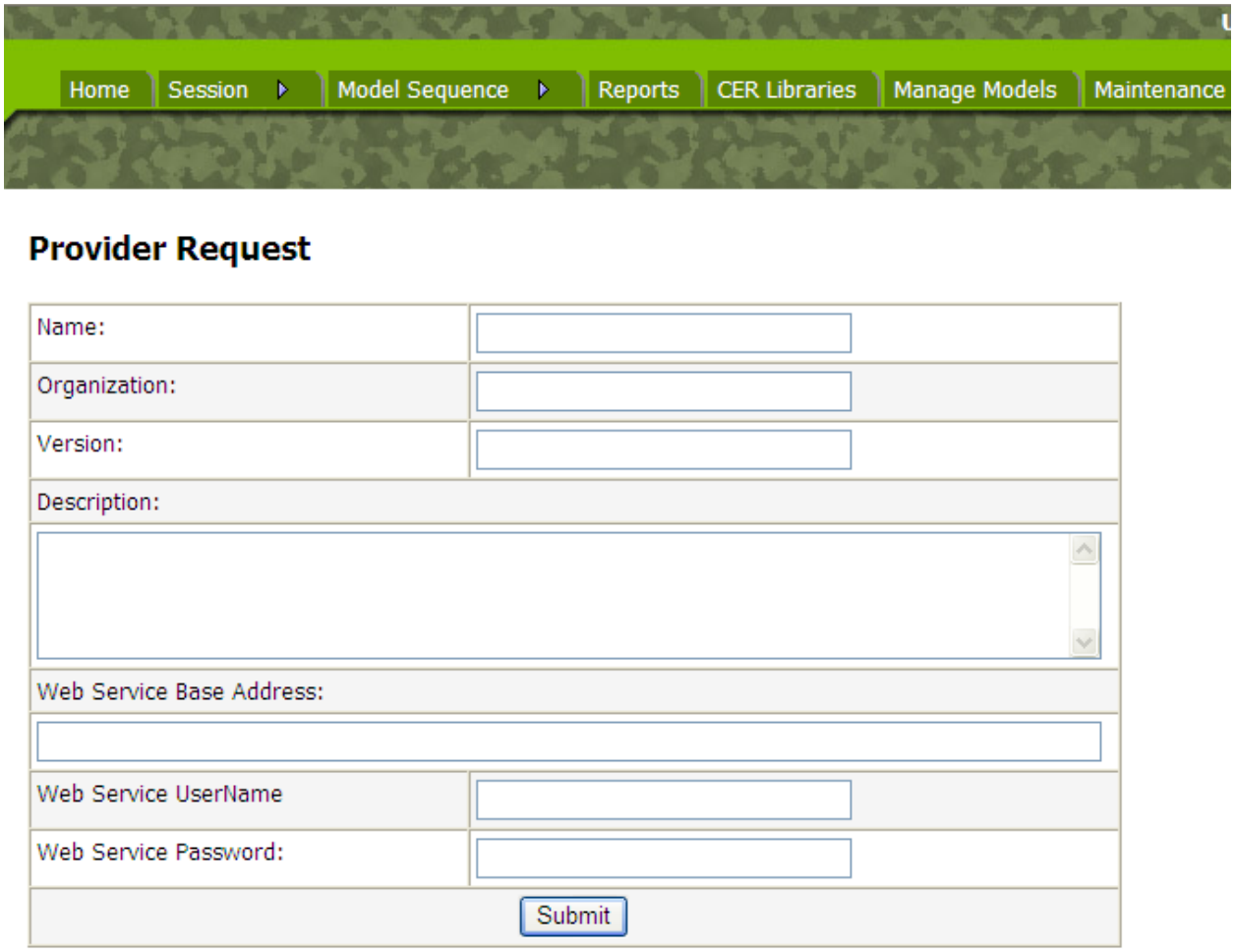


Figure 163: JIAT Provider Request

Steps to Create a JIAT Providers:

The following summarizes the basic steps that should be taken to create and test a new JIAT Provider.

Step 1: Development Machine Setup
Setup and configure a development machine.

Step 2: Create a Provider Visual Studio Project
Install the JIAT Provider Project Template and use it to create a skeleton for your new Provider project.

Step 3: Implement JIAT Provider Server Methods
The JIAT Provider service methods and Provider method code samples are available from JIAT support. The details on implementing your new Provider service methods to connect to your underlying application. Also note the Provider application requirements determine what is programmatically required of the underlying Provider application.

Step 4: Test Provider Method Calls
Run the completed Provider on the development machine and create a small client application that will test the standard JIAT service methods calls your have created in your new Provider.

Step 5: Register New Provider with Development JIAT Server
In order to make the new Provider available to the development version of JIAT for testing, it must be made available on a web server and its Provider Name and service address must be registered with a JIAT development server. Please contact JIAT Technical Support to coordinate this registration process.

Step 6: Test New Provider using a JIAT Client application
With the new Provider registered with a JIAT development server, there are two methods for testing that Provider:

- Obtain and install the JIAT Excel Add-In (this is included in the JIAT Pilot Test Desktop Tools CD installation) to test the functionality of the new Provider.
- Create a test .NET client application that makes calls to the JIAT Services methods available from a JIAT development server.

Step 7: Registering New Provider with JIAT Pilot Test Version
Please contact JIAT Technical Support for more information on registering new Providers with the current .mil hosted Pilot Test version of JIAT.

Manage Providers:

Manage Providers shows a summary of all the Providers available in JIAT (See Figure 164).

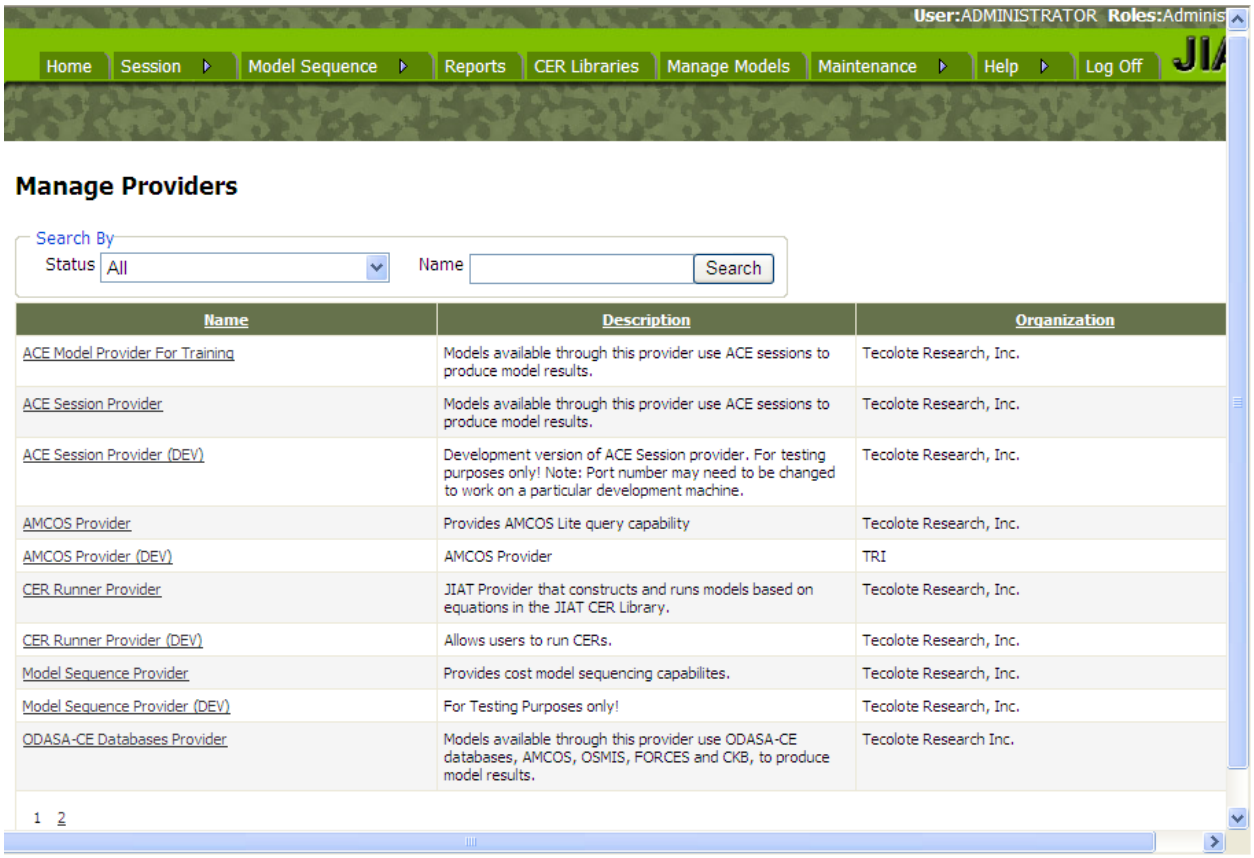


Figure 164: Manage Providers

Managing User Access to JIAT:

User access to JIAT is two-tiered. Each user is first assigned to a user group; the administrator defines the Provider and CER library permissions for the user group. Second, the administrator can add/remove privileges for the individual users account. This is important to de-conflict issues if a user is a member of multiple groups with overlapping privileges.

JIAT Users:

JIAT Users are created on the JIAT server and once loaded the JIAT administrator needs to set up the access for the user account. To manage JIAT Users select **Maintenance>Manage Users**. Figure 165 shows the Manage Users list. To define the settings for the individual users double click the User.

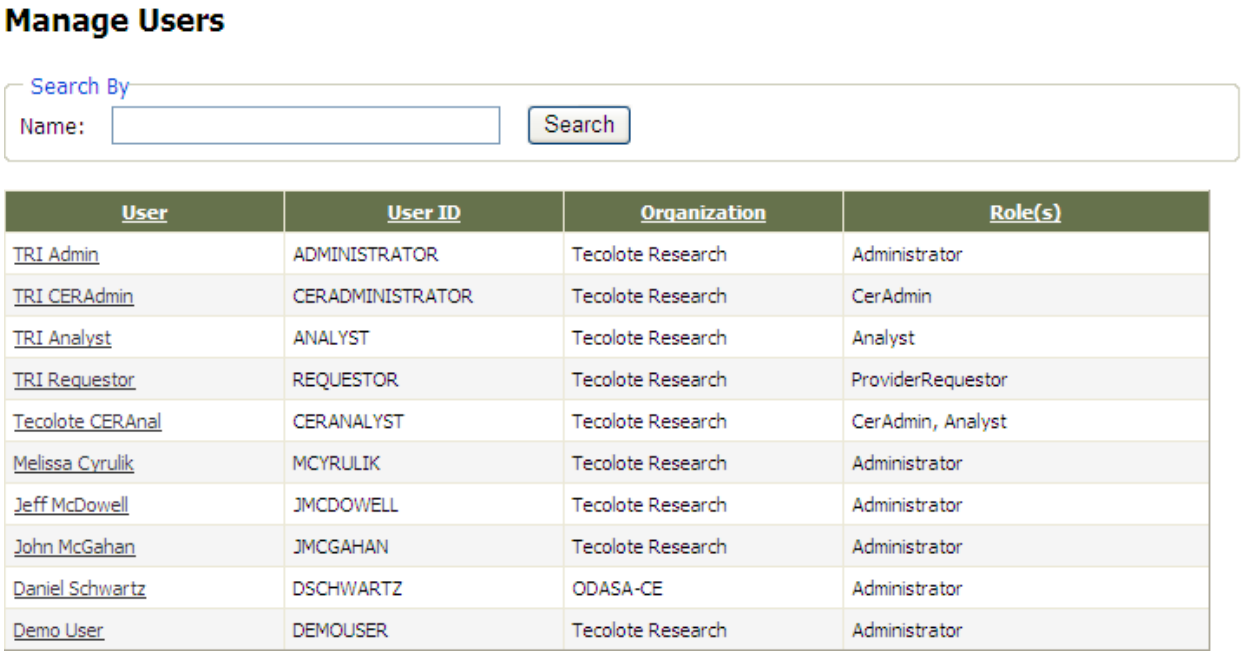


Figure 165: Manage Users

Figure 166 shows the user access screen where the administrator can define the users access to Providers and CER libraries.

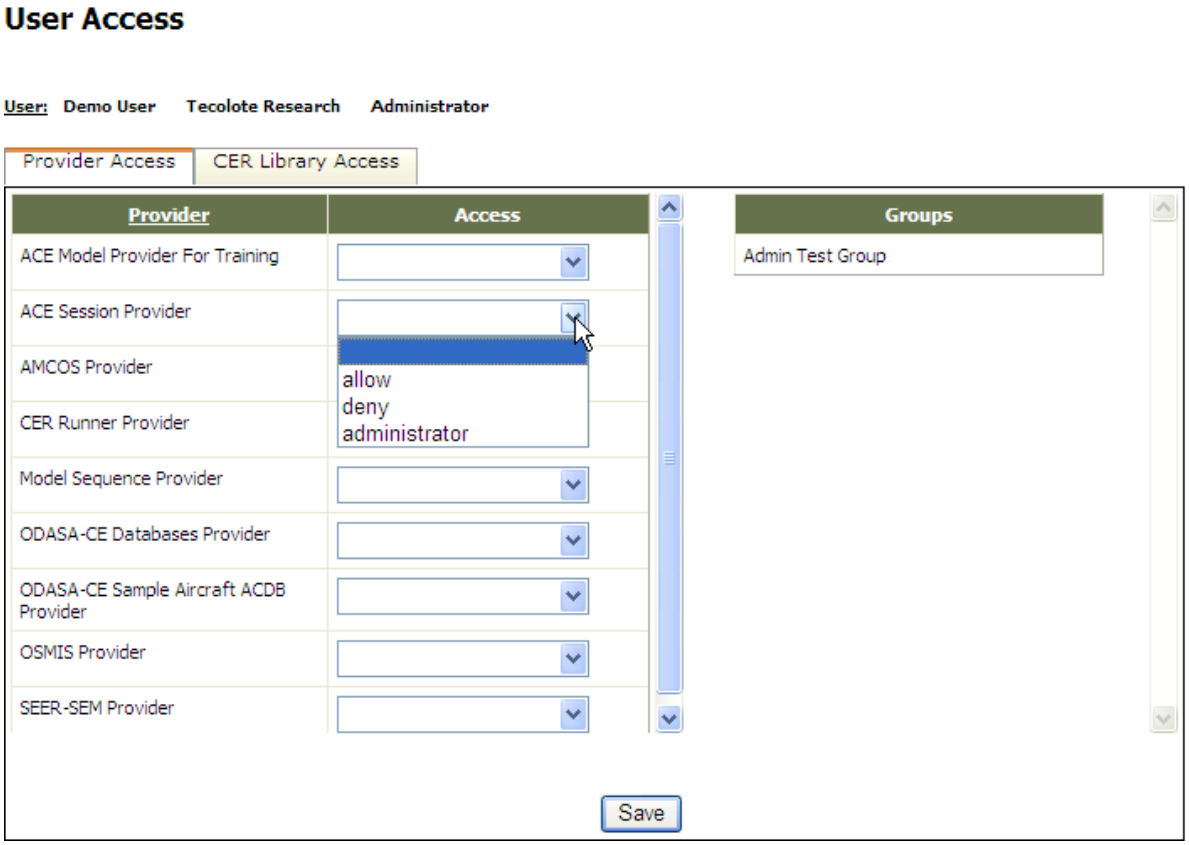


Figure 166: Users Access

JIAT User Groups:

JIAT users are assigned to user groups. User groups are managed with the **Maintenance>Manage User Groups** menu item. The JIAT administrator can add new groups and maintenance existing groups (see Figure 167).

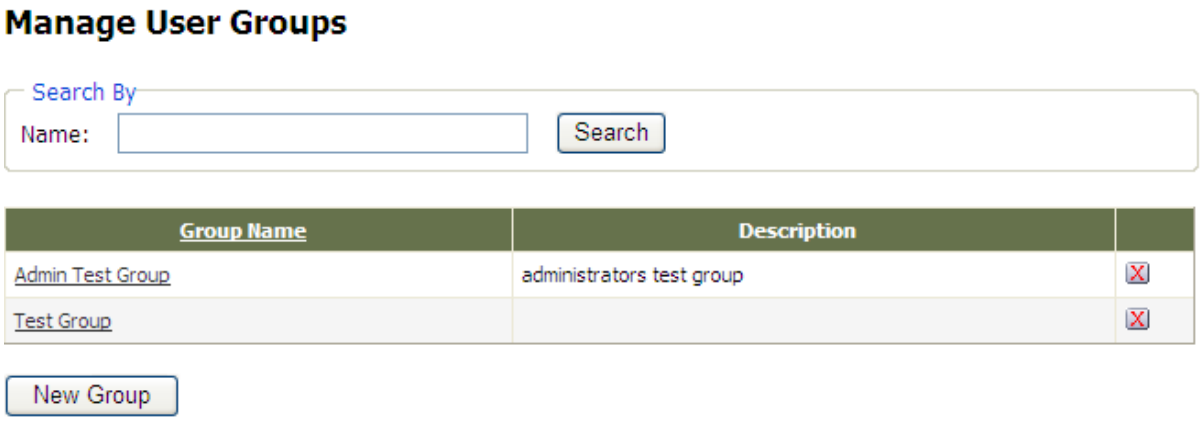


Figure 167: Manage User Groups

The main job for the JIAT administrator is to manage the JIAT user groups. There are three areas to maintain, controlling the user members of the group, specifying the group access to the Providers, and specifying the group access to the CER libraries (see Figure 168, Figure 169, Figure 170, and Figure 171).

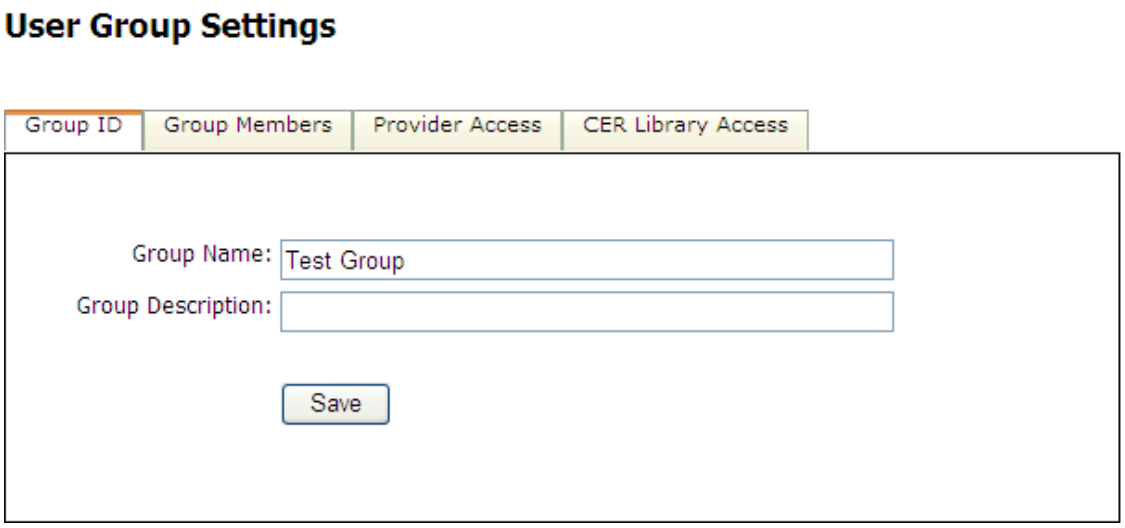


Figure 168: User Group Settings

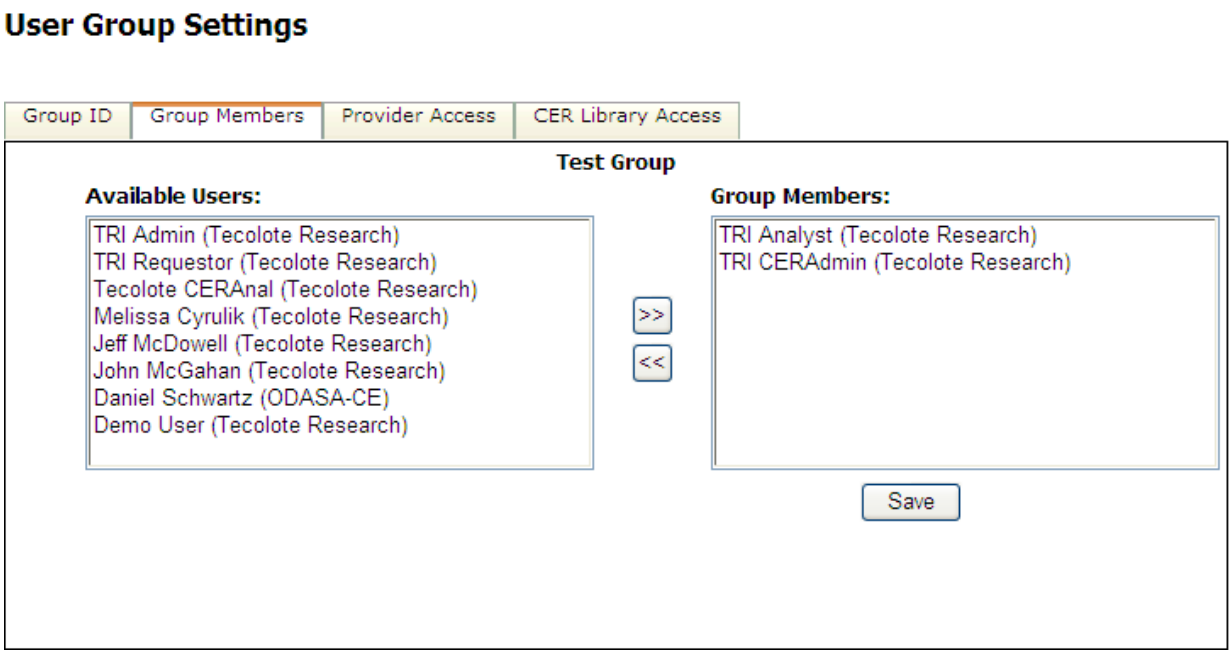


Figure 169: Group Member Permissions

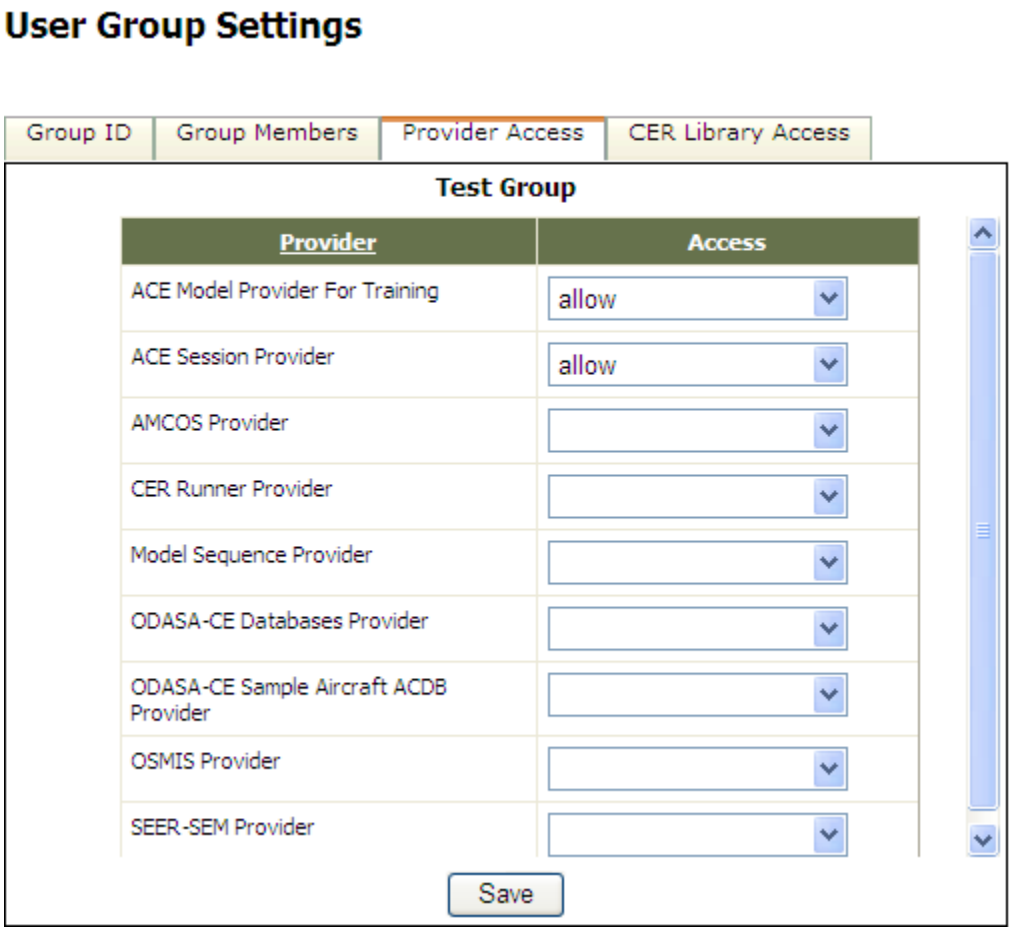


Figure 170: Group Provider Access

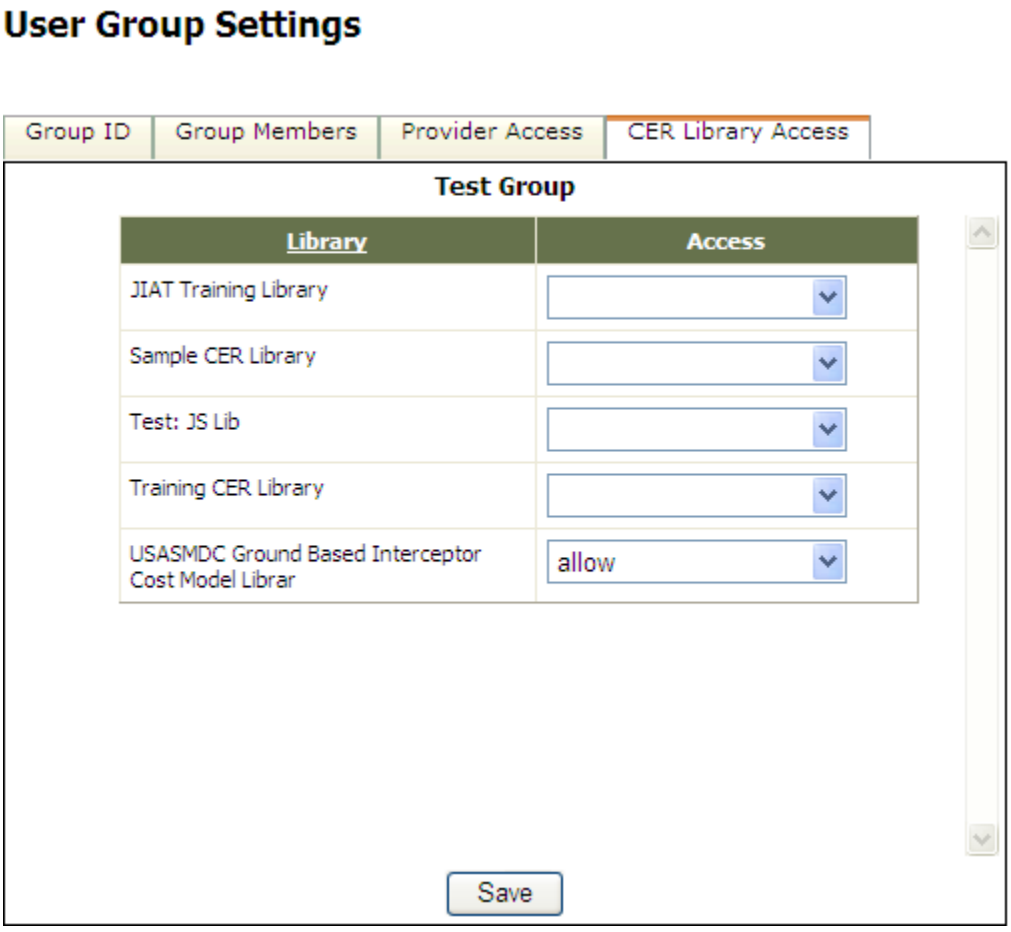


Figure 171: Group CER Library Access

APPENDIX A – Army ACDB Product Sheets

JIAT Army ACDBs

Currently there are four ACDB databases sponsored by the Army. These databases are schedule to be hosted on JIAT. The following pages show the product sheets for the ACDBs listed in Table 11.

Table 11: ACDB Databases in JIAT

Database	Service
U.S. Army Aircraft &Unmanned Aerial Systems (UAS) Automated Cost Database (ACDB	Army
U.S. Army Wheeled and Track Vehicle Automated Cost Database (ACDB)	Army
U.S. Army Communications & Electronics Automated Cost Database (ACDB)	Army
U.S. Army Missiles & Munitions Automated Cost Database (ACDB)	Army

U.S. Army Aircraft & Unmanned Aerial Systems (UAS) Automated Cost Database (ACDB)

A Collaboration between the Office of the Deputy Assistant Secretary of the Army for Cost and Economics (ODASA-CE) and Teocolote Research, Inc. for the betterment of the Department of Defense Acquisition Planning Process

Our Purpose

To provide a repository of cost, programmatic, and technical data on historical Aircraft & UAS programs. The Aircraft and Unmanned Aerial Systems Automated Cost Database (ACDB) supports Development and Production-based cost methodologies and estimates of new and/or existing Aircraft & UAS systems, available to all DoD entities. The value of the ACDB has been validated through support of Major Milestone Decisions, Independent Cost Estimates (ICE), Program Office Estimates (POE), Analysis of Alternatives (AoA), Sufficiency Reviews, and Weapon System Reviews.

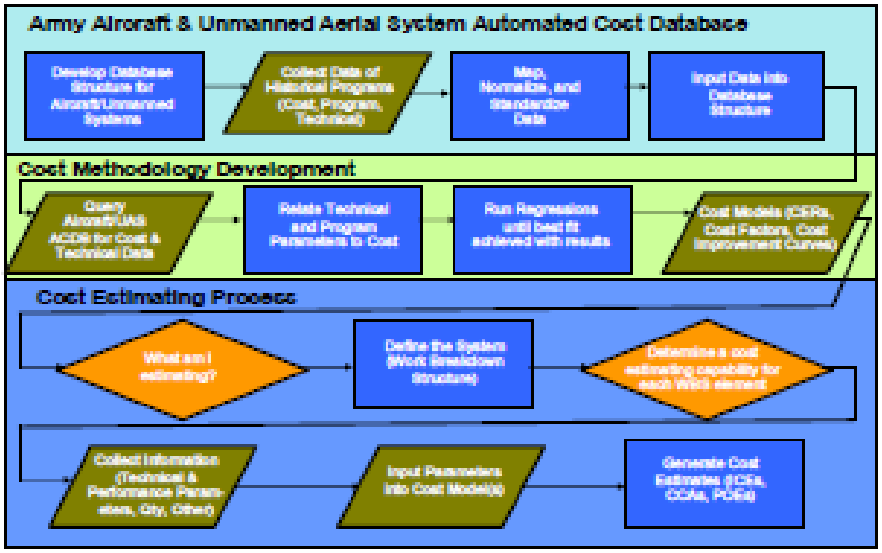
What We Do

Data Collection: We continually pursue the collection of cost, programmatic, and technical data on Aircraft & UAS programs in all phases of the acquisition cycle to facilitate the expansion and utility of ACDB.

Cost Data: Government Cost Reports (CCDRs, CDSRs, CPRs, CSSRs, Contract Price), Contractor Cost Reports
Programmatic Data: Contract Numbers, Dev & Prod Schedules, Program Review Briefs, Qty Schedule
Technical Data: CARD, System Description Documents, Government Data Documents (PDR, CDR, SRR, etc.)

Aircraft & UAS Programs of Interest: Aircraft Systems (e.g., Apache, Longbow Apache, Blackhawk, Chinook) and Unmanned Aerial Systems (Raven, Shadow 200)

The Analytical Process



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Our Results

The outputs of ACDB result in standardized data sets of cost, descriptive, and technical data on historical Aircraft & UAS systems. The data is used to create cost methodologies that estimate the acquisition costs of new Aircraft & UAS systems in support of Major Milestone Reviews, ICEs, POEs, AoAs, Sufficiency Reviews, and Weapon System Reviews.

Cost methodologies are developed for each system/technology type (e.g., Air Vehicle) based on design, performance, physical, and program parameters (cost drivers) of the historical programs in the data set. The parameters of the new systems are input into cost methodologies that generate cost estimates. Below are product examples resulting from information in the ACDB that help facilitate data driven decision making for the purpose of DoD/U.S. Army Aircraft & UAS system acquisition.

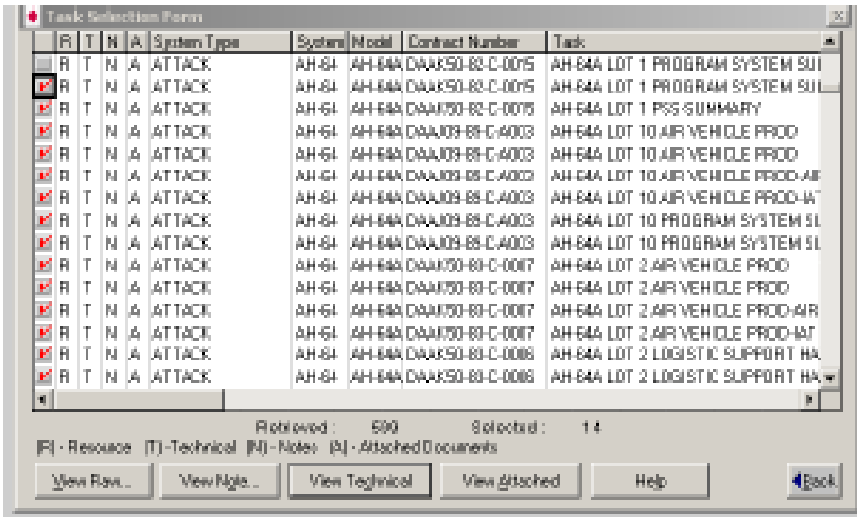
Types of Cost Methodologies Include: Cost Factors, Cost Estimating Relationships (CERs), Cost Improvement Curves

Cost Methodology Examples:

CER_1: *Lot Recurring Cost = A1 (Parameter 1)^A2 (Parameter 2)^A3 c^A4(Unspecified Variable) Qty^A5*
CER_2: *MEE Cost (RDT&E) = A1 (PME Recurring Hardware $) c^A2(Unspecified Variable)*
CER_3: *SE/PM Cost = A1 (PMP Total $) c^A2(Unspecified Variable)*

Cost Estimates: Independent Life-Cycle Cost Estimates, Component Cost Analyses, Program Office Estimates, Analysis of Alternatives

Prior Cost Estimating Examples: RCS UAS, Apache BLK III Upgrade, Blackhawk, Improved Chinook Helicopter, Longbow Apache, Armed Reconnaissance Helicopter



* Notional Diagram of the ODASA-CE Aircraft & UAS Database (ACDB)

Who Gets Access to ACDB

The database is U.S. Army Proprietary, meaning contractors and other services do not have access to the tool unless approved by ODASA-CE. All U.S. Army organizations interested in the database should contact ODASA-CE for a copy or instructional training.

OFFICE OF THE DEPUTY ASSISTANT SECRETARY OF THE ARMY — COST & ECONOMICS (ODASA-CE)

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Fax: (256) 837-6033
E-mail: lfichter@tecolote.com

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U.S. Army Communications & Electronics Automated Cost Database (ACDB)

A Collaboration between the Office of the Deputy Assistant Secretary of the Army for Cost and Economics (ODASA-CE) and Technomics, Inc. for the betterment of the Department of Defense

Our Purpose

To provide a repository of cost, programmatic, and technical data on historical C4ISR programs. The Communication and Electronics Database (ACDB) supports Development and Production-based cost methodologies and estimates of new and/or existing C4ISR systems, available to all DoD entities. The value of the ACDB has been validated through support of Major Milestone Decisions, Independent Cost Estimates (ICE), Program Office Estimates (POE), Analysis of Alternatives (AoA), Sufficiency Reviews, and Weapon System Reviews.

What We Do?

Data Collection: We continually pursue the collection of cost, programmatic, and technical data on C4ISR programs in all phases of the acquisition cycle to facilitate the expansion and utility of ACDB.

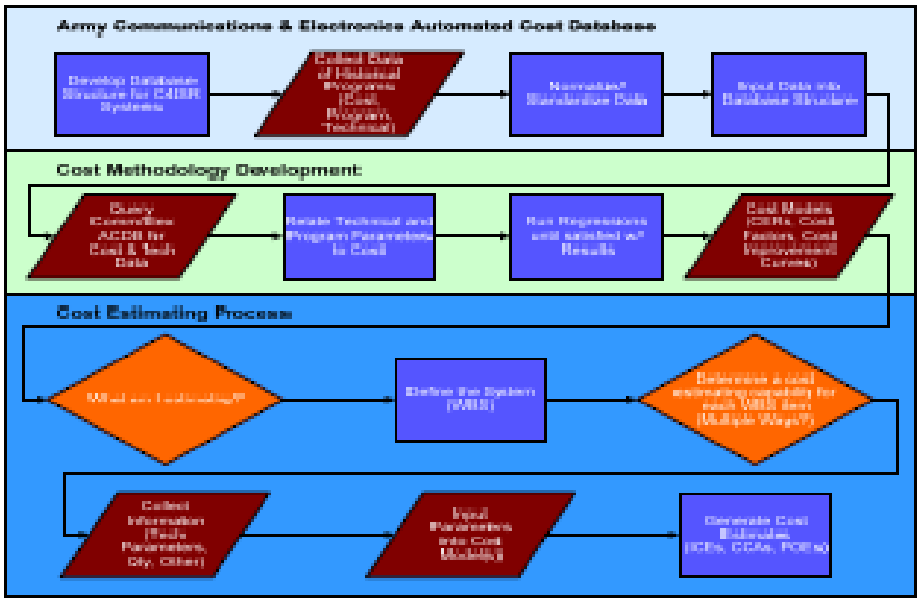
Cost Data: Government Cost Reports (CCDRs, CDSRs, CPRs, CSSRs, Contract Price), Contractor Cost Reports

Programmatic Data: Contract Numbers, Dev & Prod Schedules, Program Review Briefs, Qty Schedule

Technical Data: CARD, System Description Documents, Government Data Documents (PDR, CDR, SRR, etc.)

C4ISR Programs of Interest: Communication Systems (e.g. JTRS GMR, WIN-T, Battle Target ID Systems, etc.), Ground Sensors (IR Sensors, Active Protection Radar, Ground Penetrating Radar, Laser D/RF, LADAR, UGS, Acoustics, Magnetics, NBC, etc.), Avionics (e.g. FLIRs, SAR, FCR, Navigation Systems, etc.)

The Analytical Process



Cost Analysis Flow Diagram

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Our Results

The outputs of ACDB result in standardized data sets of cost, descriptive, and technical data on historical C4ISR systems. The data is used to create cost methodologies that estimate the acquisition costs of new C4ISR systems in support of Major Milestone Reviews, ICEs, POEs, AoAs, Sufficiency Reviews, and Weapon System Reviews.

Cost methodologies are developed for each system/technology type (e.g. Communications Radio Cost Model) based on design, performance, physical and program parameters (cost drivers) of the historical programs in the data set. The parameters of the new systems are input into cost methodologies that generate cost estimates. Below are product examples resulting from information in the ACDB that help facilitate data driven decision making for the purpose of DoD/U.S. Army C4ISR system acquisition.

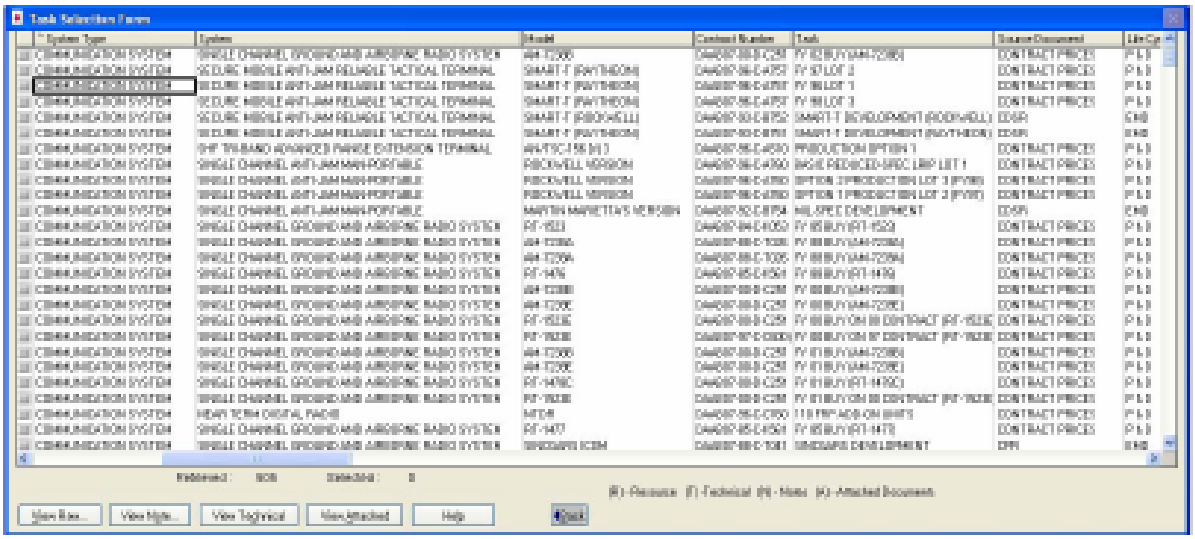
Types of Cost Methodologies Include: Cost Factors, Cost Estimating Relationships (CERs), Cost Improvement Curves

Cost Methodology Examples:

CER_1: Lot Recurring Cost = A1 (Parameter 1)^A2 (Parameter 2)^A3 e^A4(Unspecified Variable) Qty^A5
CER_2: NRE Cost (RDT&E) = A1 (PME Recurring Hardware $) e^A2(Unspecified Variable)
CER_3: SE/PM Cost = A1 (PMP Total $) e^A2(Unspecified Variable)

Cost Estimates: Independent Life-Cycle Cost Estimates, Component Cost Analyses, Program Office Estimates, Analysis of Alternatives

Prior Cost Estimating Examples: ACS, FCS C4ISR, JTRS GMR & HMS, WIN-T, Land Warrior, Microlight 3G, ASIP-E, Apache BLK III Upgrade, Integrated Air & Missile Defense



*** Notional Diagram of the ODASA-CE Communications & Electronics Database (ACDB)**

Who Gets Access to ACDB

The database is U.S. Army Proprietary, meaning contractors and other services do not have access to the tool unless approved by ODASA-CE. All U.S. Army organizations interested in the database should contact ODASA-CE for a copy and/or instructional training.

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TECHNOMICS, INC.

POC: Mr. Jim Harbour
5290 Overpass Rd, Suite 206
Santa Barbara, CA 93111

Phone: 805-964-9894 ext. 1017
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E-mail: jharbour@technomics.net

U.S. Army Wheeled and Track Vehicle Automated Cost Database (ACDB)

A Collaboration between the Office of the Deputy Assistant Secretary of the Army for Cost and Economics (ODASA-CE) and SAIC

Our Purpose

To provide a repository of cost, programmatic, and technical data on historical wheeled and track vehicle (WTV) programs. The WTV Database (ACDB) supports Development and Production-based cost methodologies and estimates of new and/or existing WTV systems, available to all DoD entities. The value of the ACDB has been validated through support of Major Milestone Decisions, Independent Cost Estimates (ICE), Program Office Estimates (POE), Analysis of Alternatives (AoA), Sufficiency Reviews, and Weapon System Reviews.

What We Do?

Data Collection: We continually pursue the collection of cost, programmatic, and technical data on combat and tactical programs in all phases of the acquisition cycle to facilitate the expansion and utility of ACDB.

Cost Data: Government Cost Reports (CCDRs, CDSRs, CPRs, CSSRs, Contract Price), Contractor Cost Reports

Programmatic Data: Contract Numbers, Dev & Prod Schedules, Program Review Briefs, Qty Schedule

Technical Data: CARD, System Description Documents, Government Data Documents (PDR, CDR, SRR, etc.)

Sample of Vehicle Programs/Technical Data Within ACDB: *Bradley Fighting Vehicle, Light Armored Vehicle, Amphibious Assault Vehicle, Stryker, Crusader, Abrams Tank, MRAP Vehicles, Future Combat Systems Developments, HEMMT, HMMWV, Family of Medium Tactical Vehicles (FMTV), and Robotic Ground Vehicles.*

The outputs of ACDB result in standardized data sets of cost, descriptive, and technical data on historical Ground Vehicle systems. The data is used to create cost methodologies that estimate the acquisition costs of new ground vehicle systems in support of Major Milestone Reviews, ICEs, POEs, AoAs, Sufficiency Reviews, and Weapon System Reviews.

Cost methodologies are developed for each system/technology type based on design, performance, physical, and program parameters (cost drivers) of the historical programs in the data set. The parameters of the new systems are input into cost methodologies that generate cost estimates. Below are product examples resulting from information in the ACDB that help facilitate data driven decision making for the purpose of DoD/U.S. Army vehicle systems acquisition.

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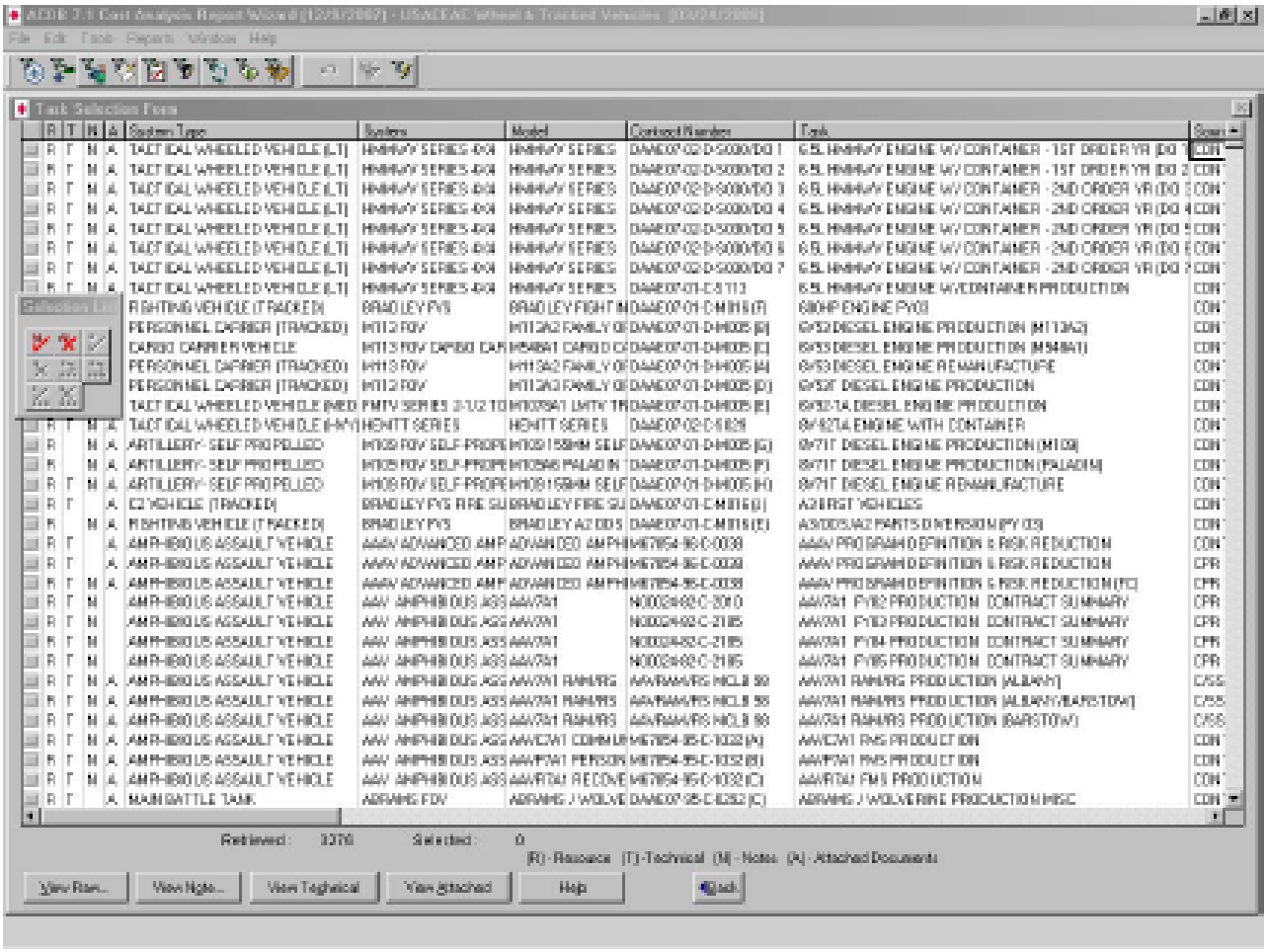
Types of Cost Methodologies Include: Cost Factors, Cost Estimating Relationships (CERs), Cost Performance Estimating Relationships (CPERs), Learning Curves

Cost Estimates: Independent Life-Cycle Cost Estimates, Component Cost Analyses, Program Office Estimates, Analysis of Alternatives

Who Gets Access to ACDB

The database is U.S. Army Proprietary, meaning contractors and other services do not have access to the tool unless approved by ODASA-CE. All U.S. Army organizations interested in the database should contact ODASA-CE for a copy and/or instructional training.



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SCIENCE APPLICATIONS INTERNATIONAL

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ODASA-CE

U.S. Army Missiles & Munitions Automated Cost Database (ACDB)

A collaboration between the Office of the Deputy Assistant Secretary of the Army for Cost and Economics (ODASA-CE) and MCR, LLC for the betterment of the Department of Defense

Our Purpose

To provide a repository of cost, programmatic, and technical data on historical missile and munitions programs. The Missile and Munitions Automated Cost Database (ACDB) supports Development and Production-based cost methodologies and estimates of new and/or existing missiles and munitions systems, available to all DoD entities. The value of ACDB has been validated through support of Major Milestone Decisions, Independent Cost Estimates (ICE), Program Office Estimates (POE), Analysis of Alternatives (AoA), Sufficiency Reviews, and Weapon System Reviews.

What We Do?

Data Collection: We continually pursue the collection of cost, programmatic, and technical data on missiles, rockets and other munitions programs in all phases of the acquisition cycle to facilitate the expansion and utility of ACDB.

Cost Data: Government Cost Reports (CCDRs, CDSRs, CPRs, CSSRs, Contract Price), Contractor Cost Reports

Programmatic Data: Contract Numbers, Dev & Prod Schedules, Program Review Briefs, Qty Schedule

Technical Data: CARD, System Description Documents, Government Data Documents (PDR, CDR, SRR, etc.)

Missile and Munitions Programs of Interest: SLAMRAAM — Surface Launched Advanced Medium Range Air to Air Missile, Patriot PAC3, Javelin, TOW, HIMARS—High Mobility Artillery Rocket System, ATACMS— Army Tactical Missile System, GMLRS—Guided Multiple Launch Rocket System, and Excalibur projectile.

Missiles & Munitions Available in the Database

120 MM	25 MM	AAAM	ACM	ADATS
AGM-130	ALCM	AMRAAM	AMS-H	APKWS
BRAVE	BULLPUP	CALCM	CEM	CHAPARRAL
COMPASS COPE	CONDOR	COPPERHEAD	DRAGON	DRM/ASMT
DURANDAL	EFOGM	ERIS	EXCALIBUR	FAAD
FOTT	GBR	GLLD	GMD	GUIDED STANDOFF WEAPON
HARM	HARPOON	HAWK	HEDI	HELLFIRE
HUMRAAM	JASSM	JAVELIN	JDAM	JOINT COMMON MISSILE
JSOW	KE-ASAT	KEM	LANCE	LOSAT
LTD	M270 LAUNCHER	MAVERICK	MEADS	MIDGETMAN
MINUTEMAN	MK50 TORPEDO	MLRS	NLOS	PATRIOT
PAVEWAY I & II	PEACEKEEPER	PENGUIN	PERSHING	PGMM
PHOENIX	RAPTOR	ROCKEYE	ROLAND	RPV
SADARM	SEA LANCE	SFW	SHRIKE	SIDEARM
SIDEWINDER	SKIPPER II	SLAMRAAM	SLAT	SMALL ICBM
SPARROW	SPRINT	SRAM	STANDARD MISSILE	STINGER
SUBROC	TACIT RAINBOW	THAAD	TITAN	TOMAHAWK
TOW	TRIDENT	UAV-SR	VIPER	WALLEYE II

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Our Results

The outputs of ACDB result in standardized data sets of cost, descriptive, and technical data on historical Missile and Munitions systems. The data is used to create cost methodologies that estimate the acquisition costs of new Missile and Munitions systems in support of Major Milestone Reviews, ICEs, POEs, AoAs, Sufficiency Reviews, and Weapon System Reviews.

Cost methodologies are developed for each system/technology type based on design, performance, physical, and program parameters (cost drivers) of the historical programs in the data set. The parameters of the new systems are input into cost methodologies that generate cost estimates. Below are product examples resulting from information in ACDB that help facilitate data driven decision making for the purpose of DoD/U.S. Army Missile and Munitions system acquisition.

Types of Cost Methodologies Include: Cost Factors, Cost Estimating Relationships (CERs), Cost Improvement Curves

Cost Methodology Examples:

CER_1: Unit Cost = A1 (Air Vehicle Length)^A2 (Air Vehicle Range)^A3 *A4(Air Vehicle Weight)^A5*
CER_2: AUC (RDT&E) = A1 (Quantity) e^A2(Burntime)

ACDB Report Wizard

R	T	N	A	System Type	System	Model	^ Contract Number	Task	Source
		N		SURFACE-TO-AIR	HAWK	MIM-23B	DAAH01-83-C-0199	HAWK, MIM-23B, LOT#-1 (MOTOR), FY'83	FCHR
R	T	N		AIR DEFENSE SYSTE	PATRIOT	MIM-104A	DAAH01-83-CA004	PATRIOT, MIM-104A, LOT #-4 (MSL), (MARTIN), FY '83	FCHR
R	T	N		AIR DEFENSE SYSTE	PATRIOT	MIM-104A	DAAH01-83-CA004	PATRIOT, MIM-104A, LOT #-4 (MSL), (MARTIN), FY '83	CDSR
R		N		AIR DEFENSE SYST	PATRIOT	PATRIOT ENGIN	DAAH01-83-CA005	PATRIOT, MIM-104, ENG SERV (REVISED), (RAYTHEON), I	CDSR
R		N		AIR DEFENSE SYSTE	PATRIOT	PATRIOT ENGIN	DAAH01-83-CA005	PATRIOT, MIM-104, ENG SERV, (MARTIN), FY '83	CDSR
R		N		AIR DEFENSE SYSTE	PATRIOT	PATRIOT ENGIN	DAAH01-83-CA005	PATRIOT, MIM-104, ENG SERV, (RAYTHEON), FY '83	CDSR
R	T	N	A	AIR-TO-SURFACE	HELLFIRE	AGM-114A/B	DAAH01-83-CA039	HELLFIRE, AGM-114A/B, LOT #-2 (MSL), (ROCKWELL), FY	CDSR
R	T	N	A	AIR-TO-SURFACE	HELLFIRE	AGM-114A/B	DAAH01-83-CA039	HELLFIRE, AGM-114A/B, LOT #-2 (MSL), (ROCKWELL), FY	FCHR
R	T	N	A	AIR-TO-SURFACE	HELLFIRE	AGM-114A/B	DAAH01-83-CA040	HELLFIRE, AGM-114A/B, LOT #-2 (MSL), (MARTIN), FY '83	CPR
R	T	N	A	AIR-TO-SURFACE	HELLFIRE	AGM-114A/B	DAAH01-83-CA040	HELLFIRE, AGM-114A/B, LOT #-2 (MSL), (MARTIN), FY '83	FCHR
R	T	N	A	AIR-TO-SURFACE	HELLFIRE	AGM-114A/B	DAAH01-83-CA040	HELLFIRE, AGM-114A/B, LOT #-2 (MSL), (MARTIN), FY '83	CDSR
R	T	N		SURFACE-TO-AIR	STINGER	POST	DAAH01-83-CA052	STINGER, >FIM-92B, IFF, FY '83	FCHR
R	T	N	A	BATTLEFIELD SUPPI	MLRS	M-26	DAAH01-83-CA107	MLRS, M-26, FRP AIR VEHICLE, CEL, LOT #-7, FY89	FCHR
R	T	N	A	BATTLEFIELD SUPPI	MLRS	M-26	DAAH01-83-CA107	MLRS, M-26, FRP AIR VEHICLE, CEL, LOT #-6, FY88	FCHR
R	T	N	A	BATTLEFIELD SUPPI	MLRS	M-26	DAAH01-83-CA107	MLRS, M-26, FRP AIR VEHICLE, CEL, LOT #-6, FY88	CDSR
R	T	N	A	BATTLEFIELD SUPPI	MLRS	M-26	DAAH01-83-CA107	MLRS, M-26, FRP AIR VEHICLE, CEL, LOT #-4, FY86	FCHR
R	T	N	A	BATTLEFIELD SUPPI	MLRS	M-26	DAAH01-83-CA107	MLRS, M-26, FRP AIR VEHICLE, CEL, LOT #-4, FY86	CDSR
R	T	N	A	BATTLEFIELD SUPPI	MLRS	M-26	DAAH01-83-CA107	MLRS, M-26, FRP AIR VEHICLE, CEL, LOT #-3, FY85	FCHR
R	T	N	A	BATTLEFIELD SUPPI	MLRS	M-26	DAAH01-83-CA107	MLRS, M-26, FRP AIR VEHICLE, CEL, LOT #-3, FY85	CDSR
R	T	N	A	BATTLEFIELD SUPPI	MLRS	M-26	DAAH01-83-CA107	MLRS, M-26, FRP AIR VEHICLE, CEL, LOT #-2, FY84	FCHR
R	T	N	A	BATTLEFIELD SUPPI	MLRS	M-26	DAAH01-83-CA107	MLRS, M-26, FRP AIR VEHICLE, CEL, LOT #-2, FY84	CDSR
R	T	N	A	BATTLEFIELD SUPPI	MLRS	M-26	DAAH01-83-CA107	MLRS, M-26, FRP AIR VEHICLE, CEL, LOT #-1, FY83	FCHR
R	T	N	A	BATTLEFIELD SUPPI	MLRS	M-26	DAAH01-83-CA107	MLRS, M-26, FRP AIR VEHICLE, CEL, LOT #-7, FY89	CDSR
R	T	N		SURFACE-TO-AIR	STINGER	POST	DAAH01-83-CA145	STINGER, FIM-92B, POST, LOT #-1 (MSL), FY '83	FCHR

Who Gets Access to ACDB

The database is U.S. Army Proprietary, meaning contractors and other services do not have access to the tool unless approved by ODASA-CE. All U.S. Army organizations interested in the database should contact ODASA-CE for a copy and/or instructional training.

Need More Information?

MISSILES@MCRI.COM is your direct line to the Missiles and Munitions ACDB Database Administrator, for database help, technical information, or suggestions for improvement.

OFFICE OF THE DEPUTY ASSISTANT SECRETARY OF THE ARMY—COST & ECONOMICS (ODASA-CE)

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APPENDIX B – JIAT PROVIDER DETAILED DESCRIPTIONS

ACEIT

ACEIT (Automated Cost Estimating Integrated Tools) is a family of applications that support program managers and cost/financial analysts during all phases of any program's life-cycle. ACEIT contains the premier application tools (database, statistical analysis, knowledge libraries, model building, risk analysis, and more) for storing/analyzing cost/technical data, developing cost/cost risk models, sharing, and reporting cost estimates. At the heart of ACEIT is a framework to build robust cost models where key analysis tasks (learning, phasing, inflation, risk, reporting, and documentation) are automated. ACEIT brings structure and consistency to the cost and cost risk analysis modeling and estimating process. Tools to provide seamless integration with PRICE, SEER, MS Project, NAFCOM and MS Excel are included.

ACEIT is an integrated suite of analysis tools for the desktop. Similar to how Microsoft Office provides a suite of applications to automate office functions, ACEIT provides a suite of applications to automate cost analysis.

ACEIT has over 9 separate applications focusing on the following functions within the cost estimating environment.

- Database development , search, and retrieval (ACDB)
- Statistical analysis / methodology development (CO$TAT)
- Methodology library creation (Librarian)
- Cost estimate development and documentation (ACE)
- Automated integration with other applications (ACE Plug-Ins)
- Risk analysis (RI$K)
- Charting and Tabular Reports (POST)
- Capability for customization and integration (ACE API)

A key to ACEIT's power is its architecture that allows each tool to operate separately but have the capability to electronically and automatically link each tool together. This allows a user to quickly move from searching an electronic database to building a cost relationship to including it in your estimate to assessing the risk to generating a Power Point presentation. This environment is what makes ACEIT the premier cost estimating system.

Source: www.aceit.com

AMCOS:

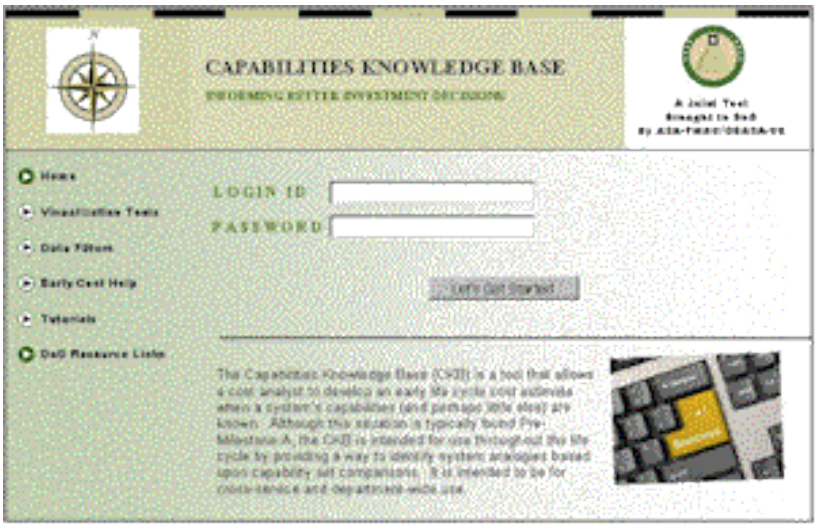
AMCOS is an automated tool that helps users estimate the costs associated with personnel and personnel requirements for different components, grades, and skills. AMCOS Lite performs

quick estimates of military, civilian and the private labor market. AMCOS is located on the OSMIS website http://www.osmisweb.com/.

Capabilities Knowledge Base (CKB)

The Capabilities Knowledge Base (CKB) is a relational database and toolset that enables a cost analyst to develop an early life cycle cost estimate when a system's capabilities (and perhaps little else) are known. Although this situation is typically found Pre-Milestone-A, the CKB is intended for use throughout the life cycle by providing a way to identify system analogies based upon capability set comparisons. Because the upcoming revision to the DoD 5000.2 will require the service components to present a cost estimate as a requirement for Milestone A, this knowledge base will gain even greater criticality to analysis mission accomplishment.

The CKB, in its soon-to-be-released web portal form, will consist of a relational database, a technical specification archive, and a basic data visualization/analysis toolset. The relational database will house cost, programmatic, schedule, contracting, and a considerable amount of related data often considered useful at a Pre-Milestone-A point in a system life cycle. Each of the systems within the CKB is mapped to its capability set using the System Capability Architecture (SCA).



The current CKB houses over 18,000 data points, and several data visualization/analysis tools will be available with the initial web release in early 2009. The CKB will be hosted within the Assistant Secretary of the Army for Financial Management's Cost and Performance Portal (CPP) within Army Knowledge Online (AKO).

Source: http://www.asafm.army.mil/ceac/ckb/ckb.asp

FORCES

The Army Force and Organization Cost Estimating System (FORCES) suite of models was developed by the Cost and Economics Office of the Deputy Assistant Secretary of the Army (DASA-CE) to provide quick and reasonable unit cost estimates to a wide variety of users in the Army and other supporting agencies. The FORCES suite brings together into one family of models numerous sources of cost data, cost factors, and personnel and equipment densities for over 1000 TOE units.

FORCES consists of the FORCES Cost Model (FCM), the Army Cost and Factors Handbook (CFH) the Army Contingency Operations Cost Model (ACM) and the End Strength Reduction (ESR) Model. The FCM is the primary tool used at DASA-CE to estimate the cost of force units

and perform other force cost analysis drills. In order to use it, data must be in or able to be converted to the SRC format. The CFH is a user-friendly version of the data contained in the FCM. In addition, the CFH contains a smaller subset of data made for analysts not primarily working in force costing. The ACM is designed to assist planners in determining requirements for contingency operations and can also assist with planning for training and exercise deployments. The official and most current FORCES data is applied to produce cost estimates for planning a contingency force or training operation. The analyst can develop cost estimates for any of the six identified phases of the operation. The phases consist of (1) Predeployment; (2) Deployment; (3) Operations and Sustainment; (4) Redeployment; (5) Reconstitution and (6) Demobilization. The ESR Model provides analysts with the capability to estimate the costs and savings associated with various force reduction scenarios.

DASA-CE developed FORCES to meet many stringent user requirements and the needs of the Army cost community. The design of the FORCES suite of models and databases is flexible to accommodate both changes in cost data and Army requirements. FORCES includes all elements necessary to estimate the cost of a force unit. DASA-CE regularly updates the suite and distributes it to reflect changes in acquisition, operations, transportation, and personnel costs. FORCES also contains the approved TOE force structure for both AC and RC units. The TOE structure represents the unclassified doctrinal structure of the Army vis-à-vis the classified, modified TOE operational structure. The TOE structure allows flexibility in costing notional force units.

Analysts can cost force units using the FCM which guides the analyst in the preparation of the various types of force cost estimates. In addition, analysts can use the data in the CFH to refine data in their own models or to create models for out of the ordinary force costing exercises. FORCES is available for distribution to any level within the Army.

Although FORCES provides finished products, the analyst must still use professional judgment. Analysts must always review FORCES results to ensure that estimates fully address the question being asked. FORCES outputs do not reflect the official Army position for the budget or POM. Although the supporting data are derived from official Army sources, the latest updates or changes in the data or in the policies behind the data may not be reflected. Users with budgeting/POM issues should contact the appropriate proponents for the current information, e.g. DAMO-TR for OPTEMPO, DAIM-ZR for BASEOPS/RPMA, etc.

Analyst Reminder: A LIN with a "Z" in the first position indicates that the equipment is not "Type Classified." These "Z" LINs are subject to substantial price revisions throughout the acquisition process and should be reviewed with the Program Manager as the estimate is developed.

Source: www.osmisweb.army.mil/forces/Public/whatisforces.htm

OSMIS

Background:

The Operating and Support Management Information System (OSMIS) is the core of the Army Visibility and Management of Operating and Support Costs (VAMOSC) program. OSMIS tracks operating and support information for over one thousand major Army weapon/materiel systems for the Office of the Deputy Assistant Secretary of the Army for Cost and Economics (DASA-CE) OSMIS-tracked systems include combat vehicles, tactical vehicles, artillery systems, aircraft, electronic systems, and miscellaneous engineering systems. DASA-CE generates and fields a wide variety of requests for OSMIS data to support analyses tasks throughout the defense community.

Army weapon and materiel systems are at the heart of the OSMIS database. An OSMIS Weapon/Materiel System can encompass several closely related variants of an Army System (for example the M1 Abrams and the M1IP Abrams (Improved Product) are two different types of tank in the national inventory, but they are the same system in the OSMIS database). Each system tracked in OSMIS is assigned a unique Weapon Identification Code (WIC). Each OSMIS Weapon/Materiel System collects data on Army systems which are identified by National Item Identification Number (NIIN) in the national supply inventory. Army systems are end items according to their supply class. However, not all end items in the national supply inventory are OSMIS-tracked.

OSMIS maintains a list of Army units and the OSMIS Weapon/Materiel Systems that they own at the battalion level by WIC. Each unit is based at an installation and is uniquely identified by the Unit Identification Code (UIC). Units are commanded by Army Major Commands which are identified by a two-character MACOM code. For OSMIS reporting purposes, units that are not assigned to an Army Major Command are grouped in to the Undistributed MACOM. A Major Command may also have many sub-major commands which consist of many battalion-level units. Army units may also be grouped into divisions or non-divisional organizations identified by Troop Sequence Number (TPSN). Operating and Support information is often summarized at the Major Command, Installation, Division, or Battalion level for reporting purposes.

Each OSMIS Weapon/Materiel System contains many types of parts which are carried in the national supply system. For each fiscal year, a list of types of parts is maintained for each OSMIS-tracked system. The quantity per end item indicates the number of parts of a given type which fit on the OSMIS system. A barrel indicator indicates whether a part-type is a weapon. If the part-type is a weapon, then the OSMIS database indicates whether it is the primary or secondary armament for a given system. Repair parts are Supply Class 9 according to the Army Master Data File (AMDF). However, some parts belonging to other supply classes do fit on OSMIS-tracked systems. For example, sometimes an end item such as a machine gun or radio can fit on another end item which is an OSMIS system. Each OSMIS system is owned by units which consume parts as they use their system in training exercises, combat, and other endeavors. OSMIS has allocated consumption quantities for these parts which are basically a weighted average of the parts consumed across all the units which have systems requiring a particular part. OSMIS uses a similar allocation process to allocate labor hours expended in the installation and maintenance of each weapon system.

As units use their vehicle systems, the activity of those systems is tracked. Ground vehicle odometers are checked on a regular basis and this information is also fed through an OSMIS process to generate vehicle mileage across the entire Army fleet of vehicles. For aircraft, flight hours are logged and captured through an OSMIS process. Most other systems in the Army are tracked simply by the number of systems. For systems that consume fuel, fuel consumption can be calculated by multiplying the vehicle activity by the fuel consumption rate. Fuel cost can be calculated by multiplying fuel consumption by the unit price of the fuel. Each system that consumes fuel has two possible fuel types.

The production of a cost factor for each system is a primary OSMIS goal. The text of each cost factor memo delivered by the OSMIS team or officially released by DASA-CE is contained in the database. A reparable, consumable, and total cost factor is produced by weapon/materiel system and Major Command. Fuel and POL costs can be derived from the fuel costs associated with each cost factor memo and the fuel consumption rates of each system. In producing cost factors, the total parts dollars spent on a system in a MACOM is divided by the miles or hours of a system in that command. This produces a cost per flying hour or cost per mile cost factor. For systems that do not move under their own power, a cost factor can be calculated based on the number of systems in a MACOM to provide a cost per system factor. The cost factor basis of a system is MILE, HOUR, or SYSTEM

OSMIS tracks the overhaul and modification of major end items (like tanks) and the rebuilding of secondary items (like engines and transmissions). For each OSMIS-tracked system or secondary item undergoing a depot maintenance action, information is kept about the Number of Systems Overhauled, Labor Hours Expended, Materials Cost, and Overhead Cost. All information is captured at the OSMIS system (WIC) level and common parts are allocated among WICs.

OSMIS produces supply class II and supply class IV cost factors at an installation-major command level. These cost factors provide the cost per person for Parachutes; Nuclear, Biological, and Chemical Equipment; Organizational Clothing and Equipment; Other Class II goods; and Class IV goods. These factors can be used to figure out the costs of supporting troops belonging to a Major Command stationed at a particular installation.

Each installation may be the location of a support organization which places, receives, and cancels requisitions for types of parts in the national supply system. Each support organization supports many units and each unit can be supported by many support organizations. Requisitions are processed and allocated among OSMIS systems to eventually form an important part of the OSMIS database. However, they may be queried in an unprocessed raw form since the information is of importance to OSMIS customers in many special analyses tasks.

Data Model Description:

OSMIS System

Each system in the OSMIS database is identified by an OSMIS-generated Weapon Identification Code (WIC) and Fiscal Year. The combination of the two fields is unique. Fiscal year is needed because weapons definitions have evolved and some WICs have been recycled over time.

Generally, an OSMIS-tracked system collects data on one or more types of end item. However, since OSMIS systems also include families of OSMIS tracked systems (for example the M113 family) and systems that are provided factors through the Provisioning Master Record (PMR) and Contractor Logistics Support (CLS), not every OSMIS System has historical data. Thus, OSMIS systems collect data on zero, one, or more end items. Where data is available properties that are unique to an OSMIS System such as the oil consumption rate, and power source are tracked. In addition, a graphic, and text description is stored for each system.

A major end item is known by National Item Identification Number(NIIN) from the Army Master Data File (AMDF). Each OSMIS system is also known by Mission Design Series. A list of OSMIS-approved Mission Design Series and Mission Design Series Names is kept to ensure that the naming of OSMIS-tracked systems and end items is consistent. The end item is also described by a Mission Design Series (MDS) and an MDS Name. For example, while a helicopter may be tracked by NIIN, the MDS may be UH-60A and the MDS Name may be Blackhawk. The OSMIS-approved MDS is not necessarily consistent with federally approved naming conventions because the MDS may have to apply to an entire series of systems. For example, the MDS may be M939 and the MDS Name may be "M939 Series Truck." The primary NIIN indicator indicates which major end item is most commonly used to describe the entire series of major end items that make up an OSMIS system.

Fuel

An OSMIS System may consume some type of fuel. Fuel is known by an abbreviation such as JP-4. With the exception of systems that use gasoline (MOGAS), if a systems consumes fuel it consumes two types of fuel. DF, JP-4, JP-8, and MOGAS are the most commonly used types of fuel. For the current year, fuel types are priced by the Defense Fuel Supply Center bulletin. While prices for common types of fuel are available for future years in Cost Factor Memos, AMDF prices for most fuel types may be found on the Part-Type attributes.

Parts

Each OSMIS System contains zero, one, or many item types called part-types. When an OSMIS system has cost factors developed on a PMR, Contractor Logistics Support (CLS), or Family basis, then there are no part-types on the OSMIS database. Part types are known by National Item Identification Number (NIIN). If the part type is contained on the Army Master Data File, it will have an AMDF NIIN. The Quantity Per End Item indicates how many of each part is actually on a given OSMIS System. The Provisioning Contract Control Number (PCCN) and Provisioning Line Item Sequence Number (PLISN) are provided to allow analysts to refer back to Army source files not available on this OSMIS database which help link a part to a given type of system. The source code indicates whether the part belongs on the OSMIS internal reference tables TW1 or TS3.

A Barrel Indicator indicates whether an item-type is actually a weapon on an OSMIS System. If the Barrel Indicator is "Y" then there is also a Primary-Secondary Armament Indicator which shows analysts if the weapon is the primary weapon for a system (for example to 120mm Main Gun on an M1A1 tank) or a secondary weapon such as a .50 caliber machine gun. Each OSMIS system uses ammunition. Ammunition is Supply Class 5 in the Army Master Data File and has an AMDF NIIN. Ammunition can be grouped into ammunition groups by Department of Defense Identification Code. For each Ammunition Group OSMIS provides a type code to tell

analysts if the ammunition is a "bullet" or a "missile." OSMIS links each OSMIS System and Weapon combination to the ammunition group which is used with it.

Units
Units are known by Unit Identification Code (UIC) and are tracked on a quarterly basis. The fourth quarter is used to provide annual unit information. The total number of personnel in a unit is based upon an annual fourth quarter feed to OSMIS. If you know the Sub-Major Command of a unit, then you automatically know the Major Command. If the Major Command of a Unit is undistributed (UN), then there will be no Sub-Major Command. While every unit in the Army has a Major Command, some Major Commands are not tracked in the OSMIS data commands and the Army Source data (the troop list) does not always provide Major Command information for each unit. Therefore, unit Major Commands may be blank or they may be replaced with UN.

Source: www.osmisweb.army.mil/osmisrdb/unsecure/WhatIsOsmis.aspx

SEER-SEM

SEER for Software (SEER-SEM) is a powerful decision-support tool for estimating software development and maintenance cost, labor, staffing, schedule, reliability, and risk as a function of size, technology, and any project management constraints. The SEER for Software estimation and analysis suite of applications provides an integrated solution that supports all phases of the software project life cycle. SEER for Software is effective for all types of software projects, from commercial IT business applications to real-time embedded aerospace systems. SEER for Software assists users in making vital decisions about the development and maintenance of software products to ensure that project plans are realistic, objective and defendable.

Project Planning Software - Understand project scope and complexity and develop detailed project plans more quickly and accurately, helping with software estimation.

Project Cost Management Software - Identify key cost drivers and test trade-offs much earlier in the software development process.

Project Tracking Software - Monitor project progress and determine what mid-course corrections (if any) are needed to keep the project on track.

Thousands of government and commercial users worldwide currently depend on SEER for Software (SEER-SEM) to improve software project performance and deliver software projects on time and on target.

All SEER solutions are built on the same design principles, incorporating the following application elements:

Interface:
An intuitive interface for defining and describing projects. Users can generate a new project from an existing project "template" or by adding and defining individual work elements. A series of pop-up windows and annotations guide users through the process of defining project scope, complexity, and technologies.

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Simulation/Modeling Engine:
Sophisticated sector-specific mathematical models derived from extensive project histories, behavioral models, and metrics.

Knowledge Bases:
SEER Knowledge Bases serve as a virtual "in-house expert," providing default project definitions, values, ranges, and calibrations based on comparable project histories. Enables users to develop first-look estimates when very little information is known, and to refine those estimates as details become available.

Output:
A variety of charts, graphs, and reports for quickly summarizing and presenting project outcomes and alternatives as well as work-in-progress.

Open architecture and APIs ensure that SEER applications can be easily integrated with departmental productivity solutions and enterprise applications.

A high-level SEER software estimation can be developed in a matter of minutes. Simply define a software development project by platform, application, development methodology, and governing standards, for example, and SEER will provide a set of default parameter values and a rough estimate based on project histories which most closely match your definition. Where greater precision is necessary, projects can be defined in greater detail and specific parameter values can be adjusted.

SEER for Software evaluates software parameters not as isolated factors, but as interdependent variables spanning project objectives and constraints, work products, and lifecycle.

As Software size is the single most significant driver of development cost, effort, and schedule, SEER for Software provides a number of sizing options and applications (e.g., Software Lines of Code, Function Points, and Use Cases), as well as embedded sizing "wizards" to assist in size calculations. Enter or refine best case, worst case, and most-likely case values for additional project variables, including:

- Staffing levels, capabilities & experience
- Development environment complexity
- Requirements stability
- Confidence level
- Target/Host systems
- Schedule Considerations
- Reusability
- Integration
- Labor rates
- Maintenance levels
- And more

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As parameter values are entered or changed, SEER for Software updates the cost and effort estimates, in real-time, to determine how these changes are likely to impact a project's ultimate outcome. The results of these analyses can be documented and shared using SEER's rich reporting capabilities, as well as exported to Microsoft Project, Microsoft Office, IBM Rational, and numerous other 3rd-party applications.

SEER for Software goes beyond what traditional project planning software, project tracking software, and cost management software applications can provide, enabling organizations to streamline, automate, and optimize project planning processes.

Learn about the extended capabilities of the SEER for Software project management tool and how these extended capabilities can further improve your software estimation and software development lifecycle:

Source: www.galorath.com

TruePlanning

TruePlanning delivers a tremendous return on investment by bringing speed, accuracy and confidence to your estimating and decision making process.

TruePlanning is the only solution that allows you to estimate hardware (mechanical & electronic), software, IT, and System of Systems projects in a single framework.

TruePlanning is designed to deliver accurate cost estimating and is employed by a wide a variety of professionals across the Aerospace & Defense industries, Government Agencies, and Commercial organizations which include:

- Cost Estimators and Cost Analysts
- Systems & Mechanical Engineers
- Software Engineers
- Business Development Teams
- Program Management Offices and Project managers
- Executive Decision Makers

Estimate

TruePlanning is used to estimate the costs, schedule, effort, and benefits for:

- Hardware Life Cycle programs mechanical and electronic
- Software projects
- IT Projects
- System of Systems configurations

TruePlanning dramatically reduces the time it takes to generate estimates while increasing the accuracy of results.

Analyze

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Improve your decision-making capabilities by analyzing and comparing multiple projects and alternatives to reach an optimal solution.

- Compare multiple project estimates against available budget
- Compare project alternatives by value
- Evaluate Project Risk

Justify
TruePlanning comes with easy reporting capabilities that allow you to quickly send the results of your estimates and analysis to Microsoft Office templates in order to present findings and support the decisions produced from analysis.

- Integration with Microsoft Word – Easily export TruePlanning results to your reporting templates:
- Integration with Microsoft Excel – Take any view in TruePlanning and with a simple click, export into an Excel file:

Other Reporting Features
– Built in Report Templates: Business Case Analysis, Basis of Estimate,
– Exhibit 300
– Integration with Microsoft SQL Server Reporting Services (client server install)

Source: www.pricesystems.com

APPENDIX C – Units Conversion Codes

Table 12: JIAT Distance Unit Codes

ELEMENT	CODE
Miles	mi
Meters	m
Kilometers	km
Centimeters	cm
Inches	in
Yards	yd
Nautical miles	nmi

Table 13: JIAT Area Unit Codes

ELEMENT	CODE
Square Meters	m^2
Square Feet	ft^2
Square Inches	in^2
Square Centimeters	cm^2

Table 14: JIAT Mass Unit Codes

ELEMENT	CODE
Kilograms	kg
Grams	g
Pounds	lb
Newton	N

Table 15: JIAT Pressure Unit Codes

ELEMENT	CODE
Pascal	Pa
kilogram-force per square millimeter	kgf/mm^2
kilogram-force per square meter	kgf/m^2

Table 16: JIAT Temperature Unit Codes

ELEMENT	CODE
Degrees Kelvin	K
Degrees Celsius	C
Degrees	F

Table 17: JIAT Time Unit Codes

ELEMENT	CODE
Seconds	sec
Days	d
Hours	hr
Years	yr
Minutes	min
Weeks	wk
Months	mo

Table 18: JIAT Electric Charge Unit Codes

ELEMENT	CODE
Coulombs	C
Ampere Hours	A*h
Abcoulombs	abC

Table 19: JIAT Electric Current Unit Codes

ELEMENT	CODE
Amperes	A
Abamperes	abA

Table 20: JIAT Electrical Capacitance Unit Codes

ELEMENT	CODE
Farad	F
abfadad	abF

Table 21: JIAT Electrical Inductance Unit Codes

ELEMENT	CODE
Henry	H
adhenry	abH

Table 22: JIAT Electrical Conductance Unit Codes

ELEMENT	CODE
Siemens	S
absiemens	abS

Table 23: JIAT Electromotive Force Unit Codes

ELEMENT	CODE
Volts	V
abvolts	abV

Table 24: JIAT Electrical Impedance Unit Codes

ELEMENT	CODE
Ohms	Ω
abohms	abΩ

Table 25: JIAT Other Unit Codes

ELEMENT	CODE
Percent	%
Units	unt
Systems	syst
Persons	prsn
Lines of Code	SLOC
Lines of Code per Person Month	SLOC/person mo
Functions	fctn
Functions per Person Month	fctn/person mo
Defects	dfct
Defects per lines of code	dfct/1000 SLOC
Level	lvl

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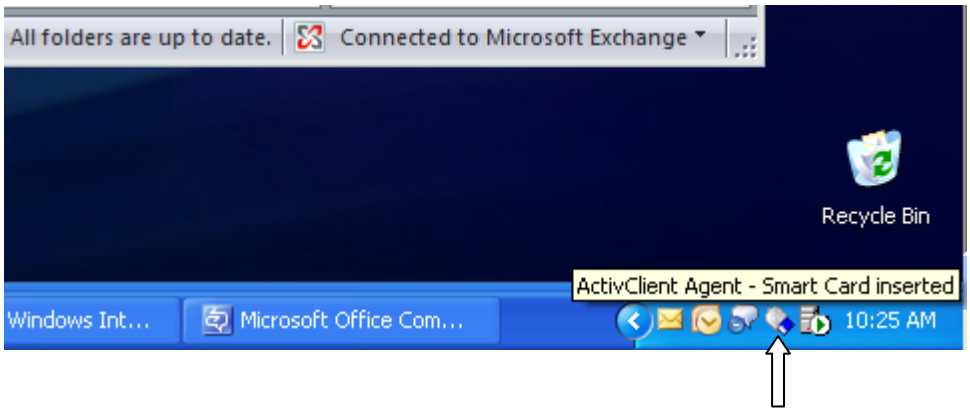
APPENDIX D – Install and Setup Instructions

Overview:

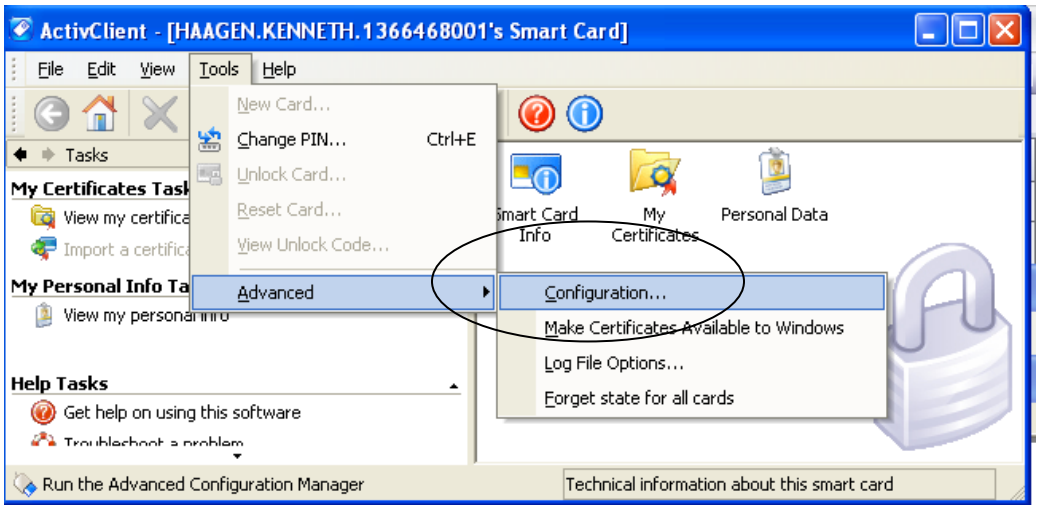
1. **ActiveClient Configuration settings**
2. **IE7 Settings**
3. **Set up an ADCF Portal account.**
4. **Enable CAC Auto Login**
5. **Install JIAT Desktop Tools**
6. **Add the JIAT Plugin to ACE**
7. **Test Server Connections for JIAT Desktop Tools**
    - **Access the JIAT CER Library from ACE Plugin**
    - **Create a new Non-Time phased sheet using the JIAT Excel Add-In**

1. ActiveClient Configuration Settings:

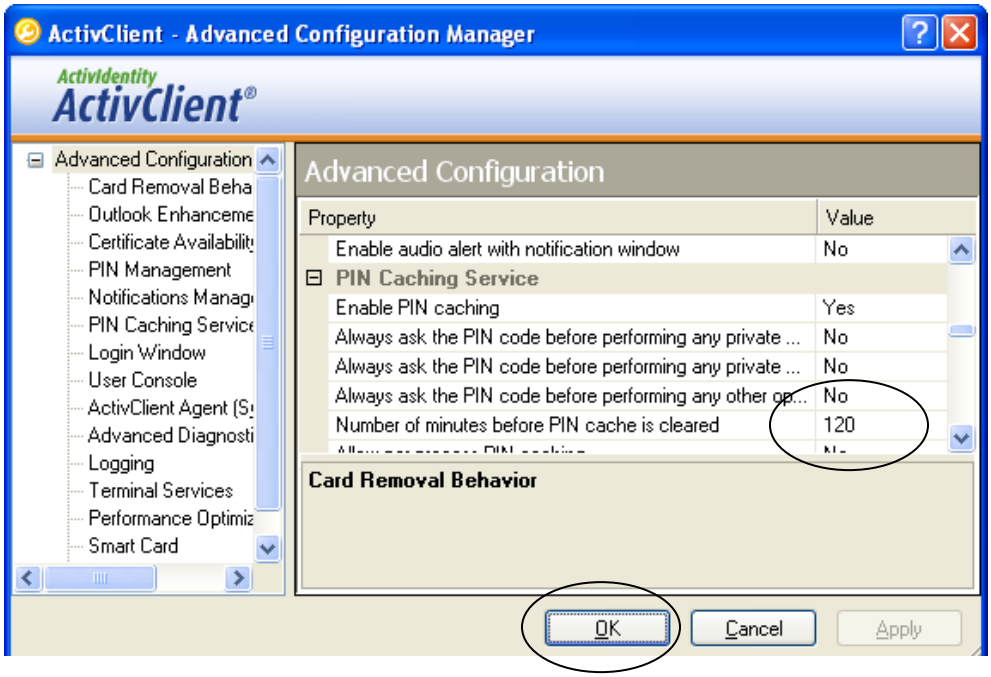
Double-click the ActiveClient Agent icon on your desktop's lower right corner.



In the ActivClient menu, choose Tools > Advanced > Configuration.



Set the "Number of minutes before PIN cache is cleared to 120.

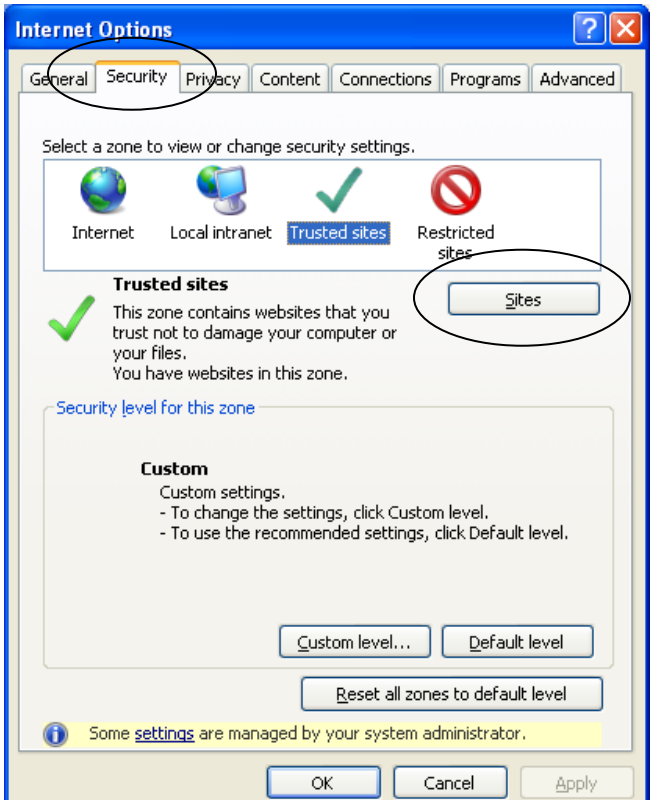


Computer restart is required for change to be applied (no picture).

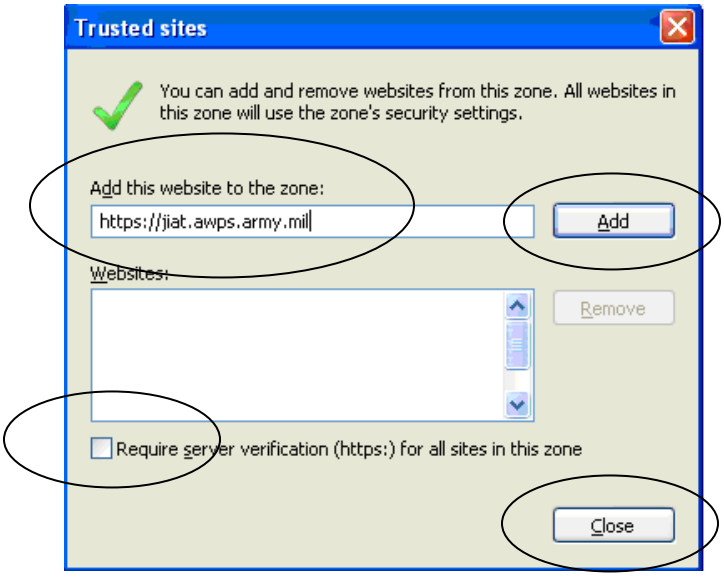
2. IE7 Settings:

If your computer is running Internet Explorer version 7, perform the following steps in order to allow access to JIAT server.

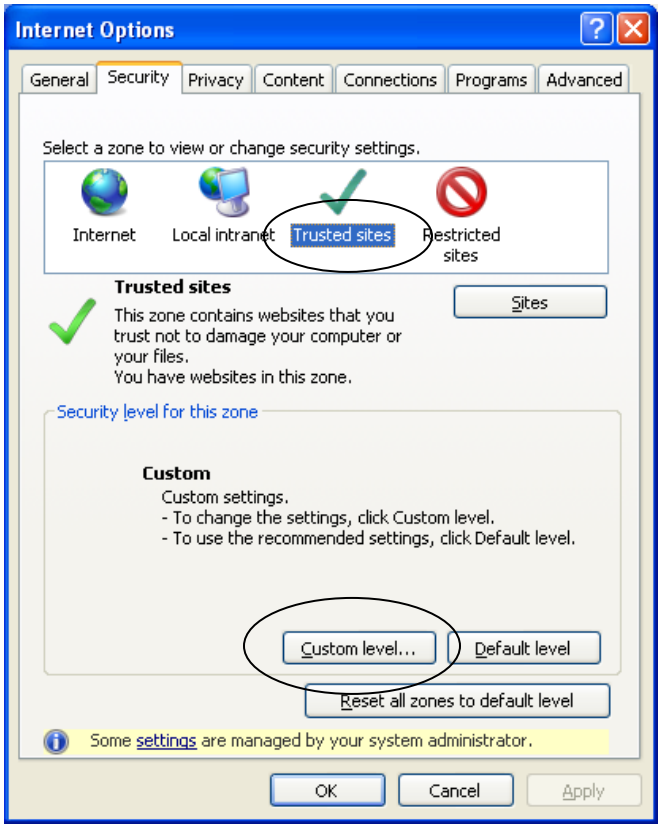
In IE7, choose Tools > Internet Options, Security tab, ‘Sites’ button.



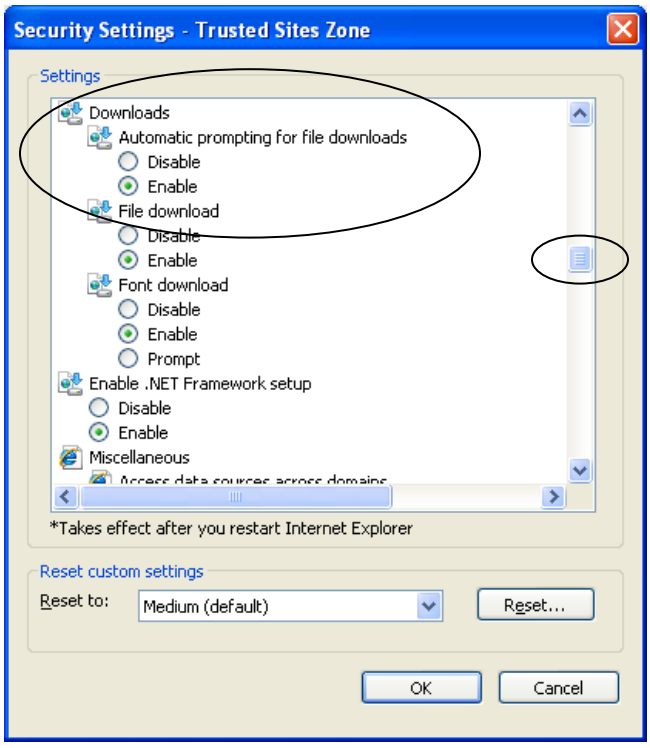
In the control labeled “Add this website to the zone:” type **“https://jiat.awps.army.mil.”** Uncheck box below Websites list labeled “Require server verification (https) for all sites in this zone.” Click the ‘Add’ button, then ‘Close.”



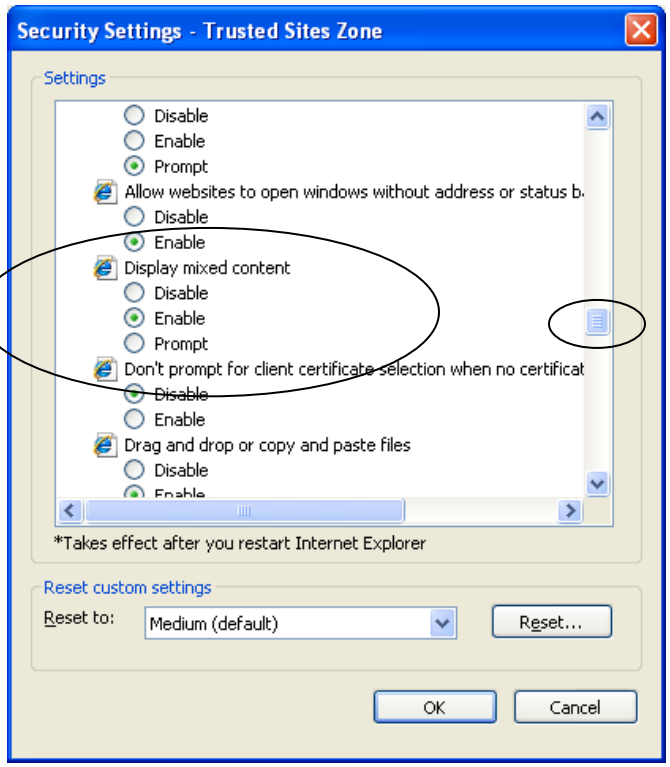
Click on 'Trusted Sites,'' Custom level' button.



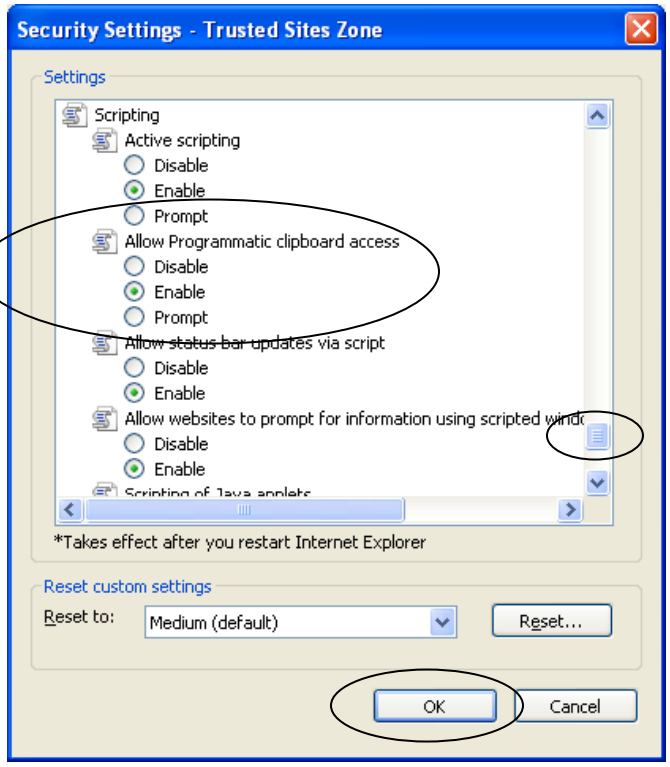
Scroll down list to: '<u>Downloads</u>'. For 'Automatic prompting for file downloads,'. mark the 'Enable' radio button".



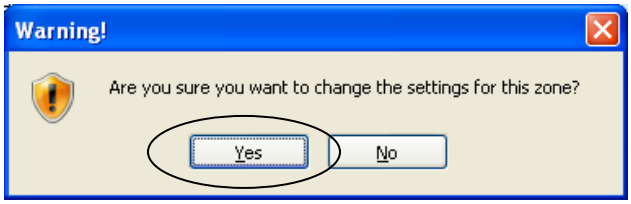
Scroll down list to: 'Miscellaneous' For 'Display Mixed Content', mark the 'Enable' radio button".



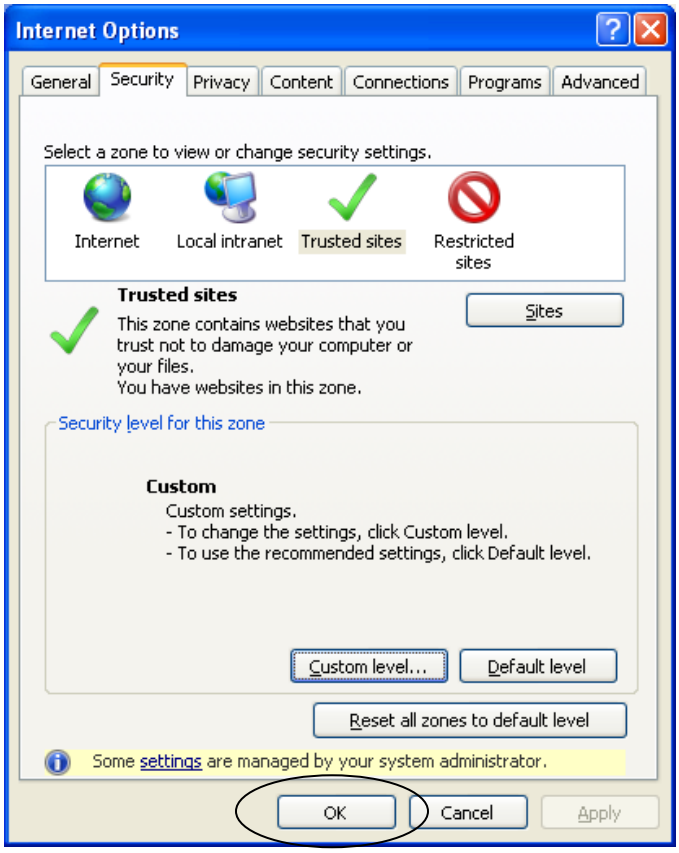
Scroll down list to: 'Scripting'. For 'Allow Programmatic Clipboard access ', mark the 'Enable' radio button". 'OK' button (closes Custom level).



'Yes' button to confirm changes.

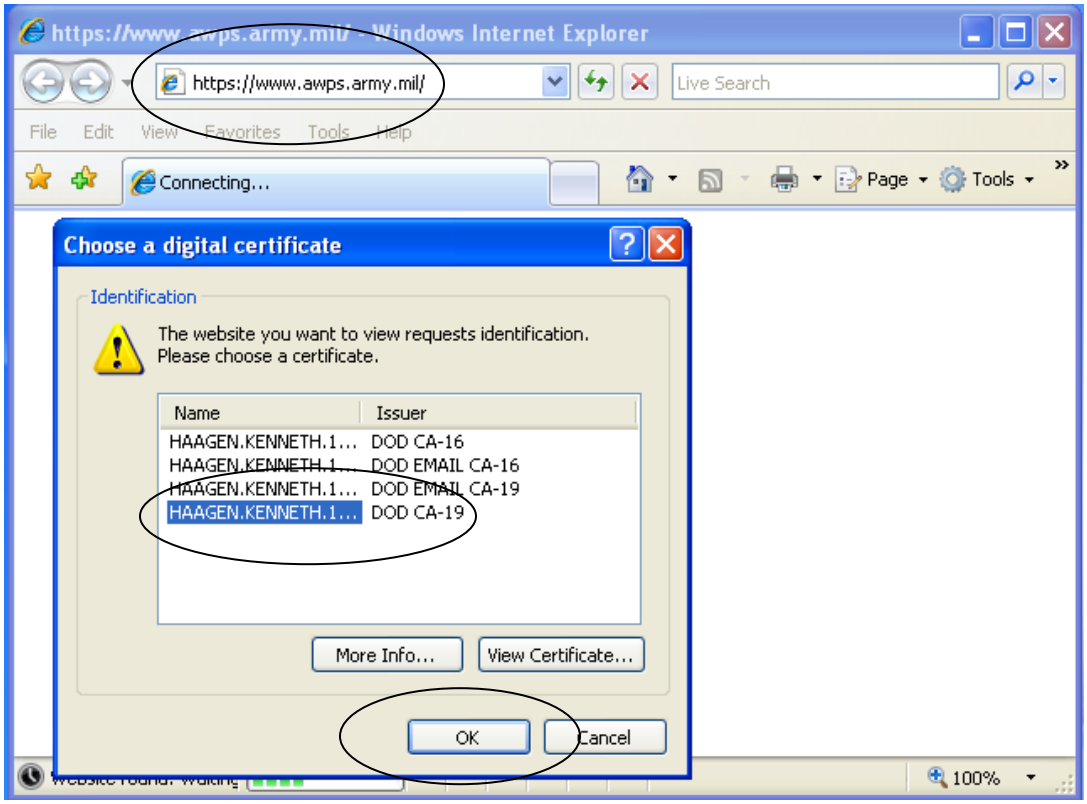


'OK' button (closes Internet Options).



3. Set up an ADCF Portal account:

In Internet Explorer, enter the url: https://www.awps.army.mil/. Select your CAC certificate from the list. Click OK.



Enter your PIN and click OK.

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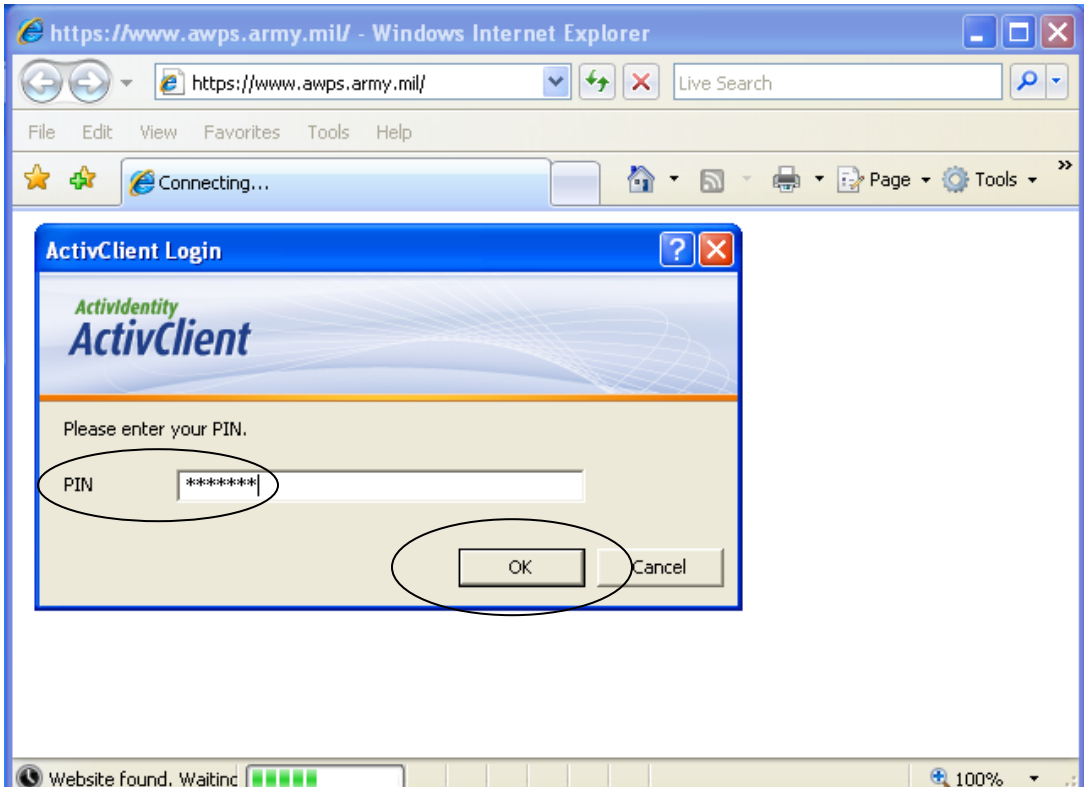
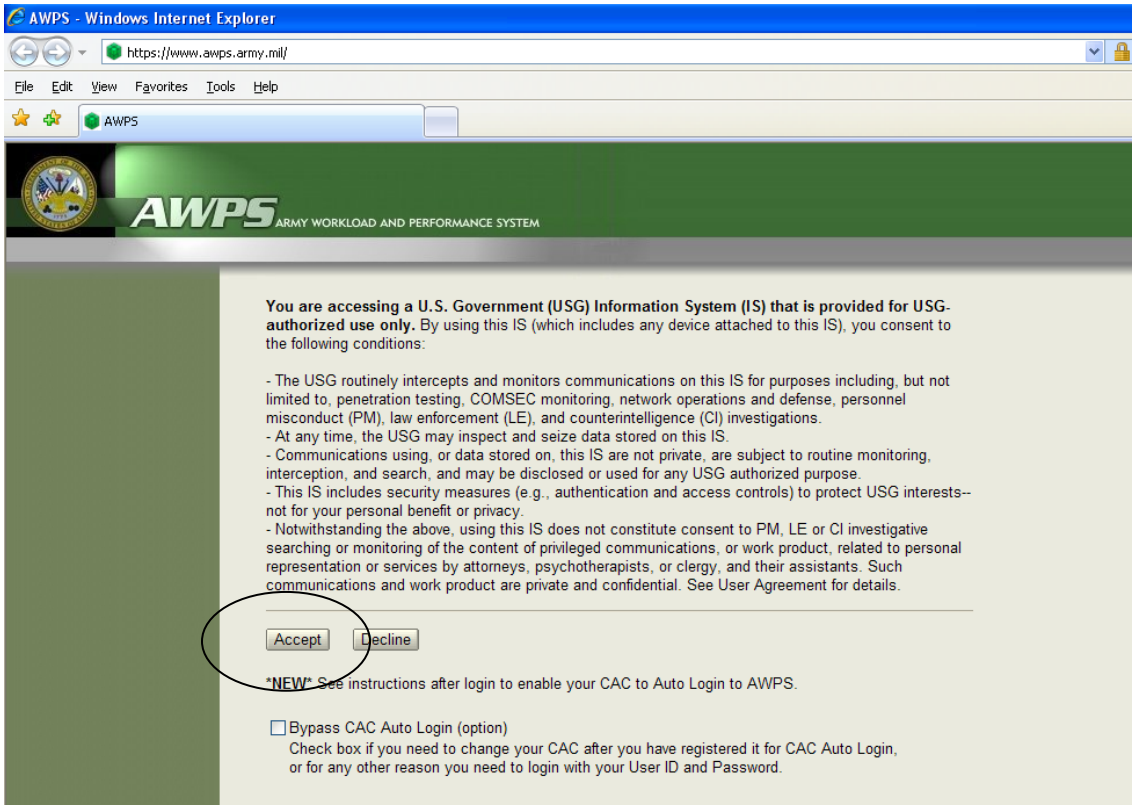


Accept the Access Agreement.



Click the link to “New User Request.”

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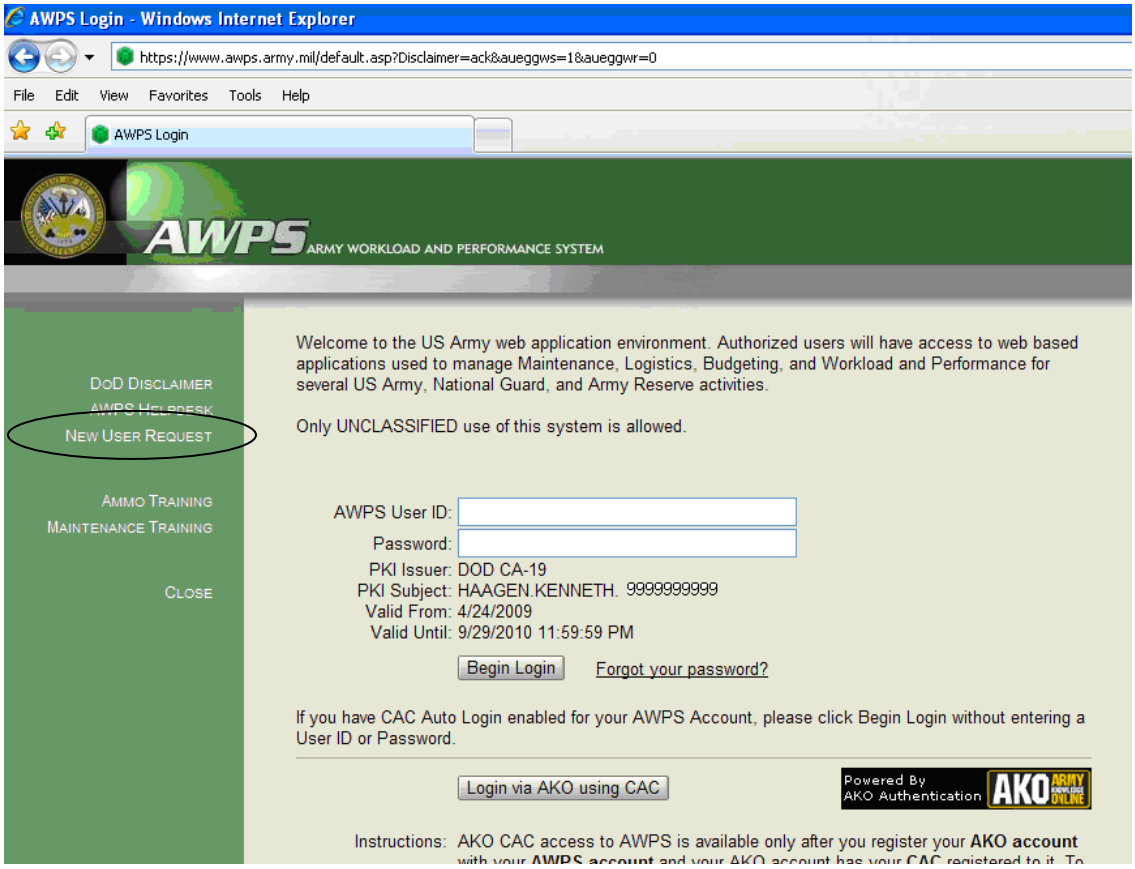

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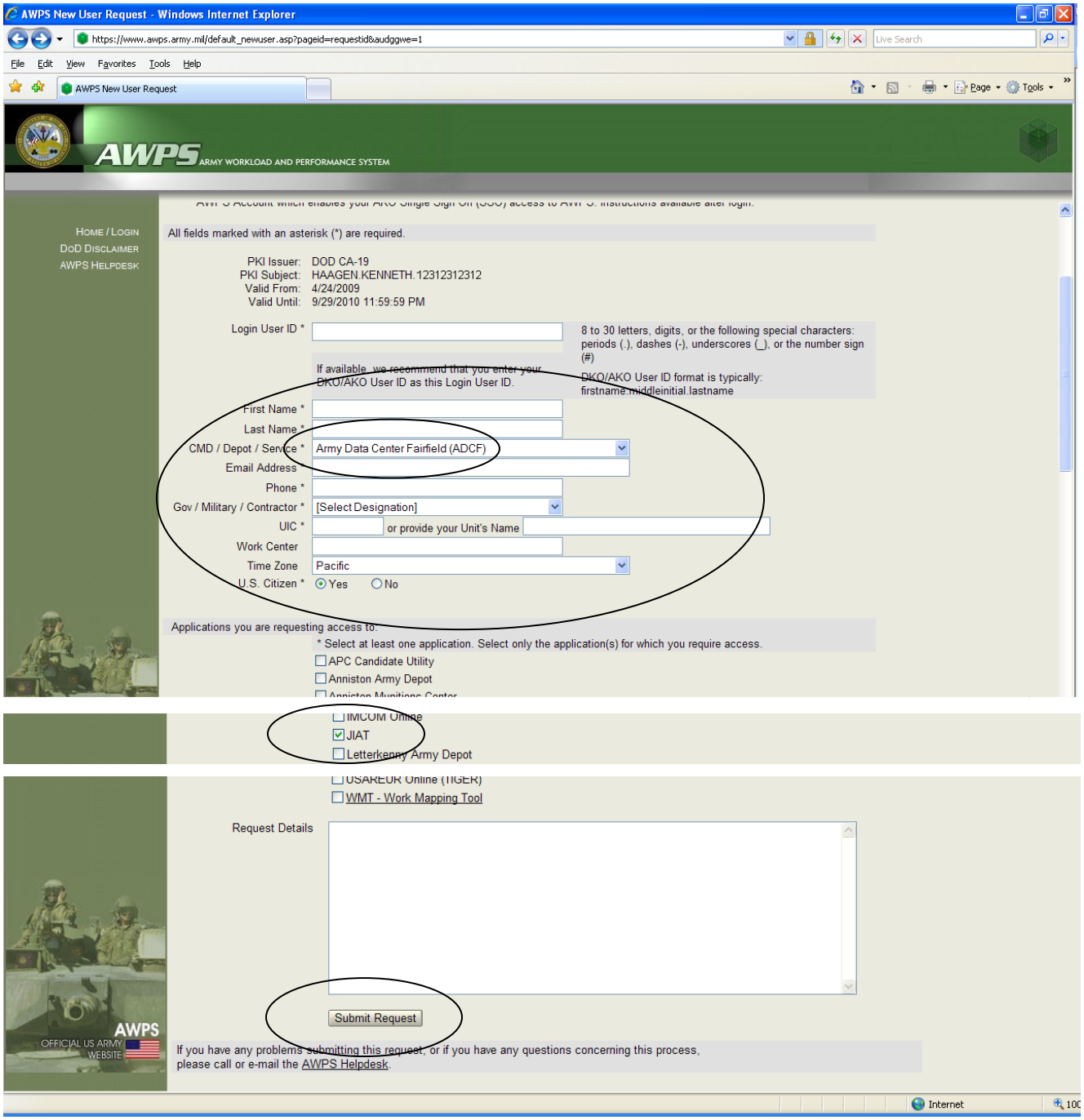
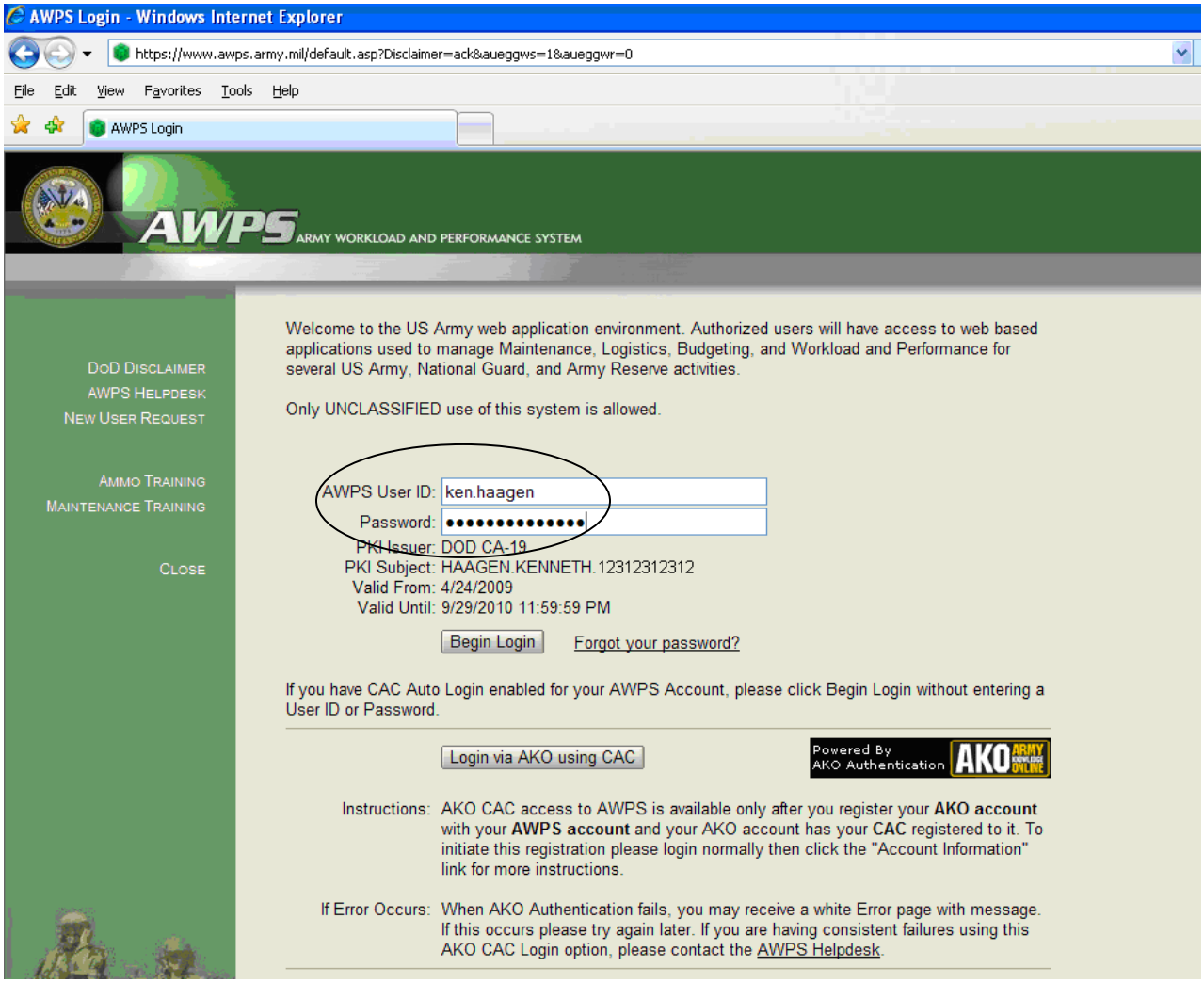
Fill in the Request form's required fields, according to the instructions and advice on the form. Choose "Army Data Center Fairfield (ADCF) in the "CMD / Depot / Service" list. Mark the "JIAT" checkbox in the "Applications you are requesting access to" list. Click the "Submit Request" button. Approval for your account and temporary password will be sent to the email address you provide on the form.

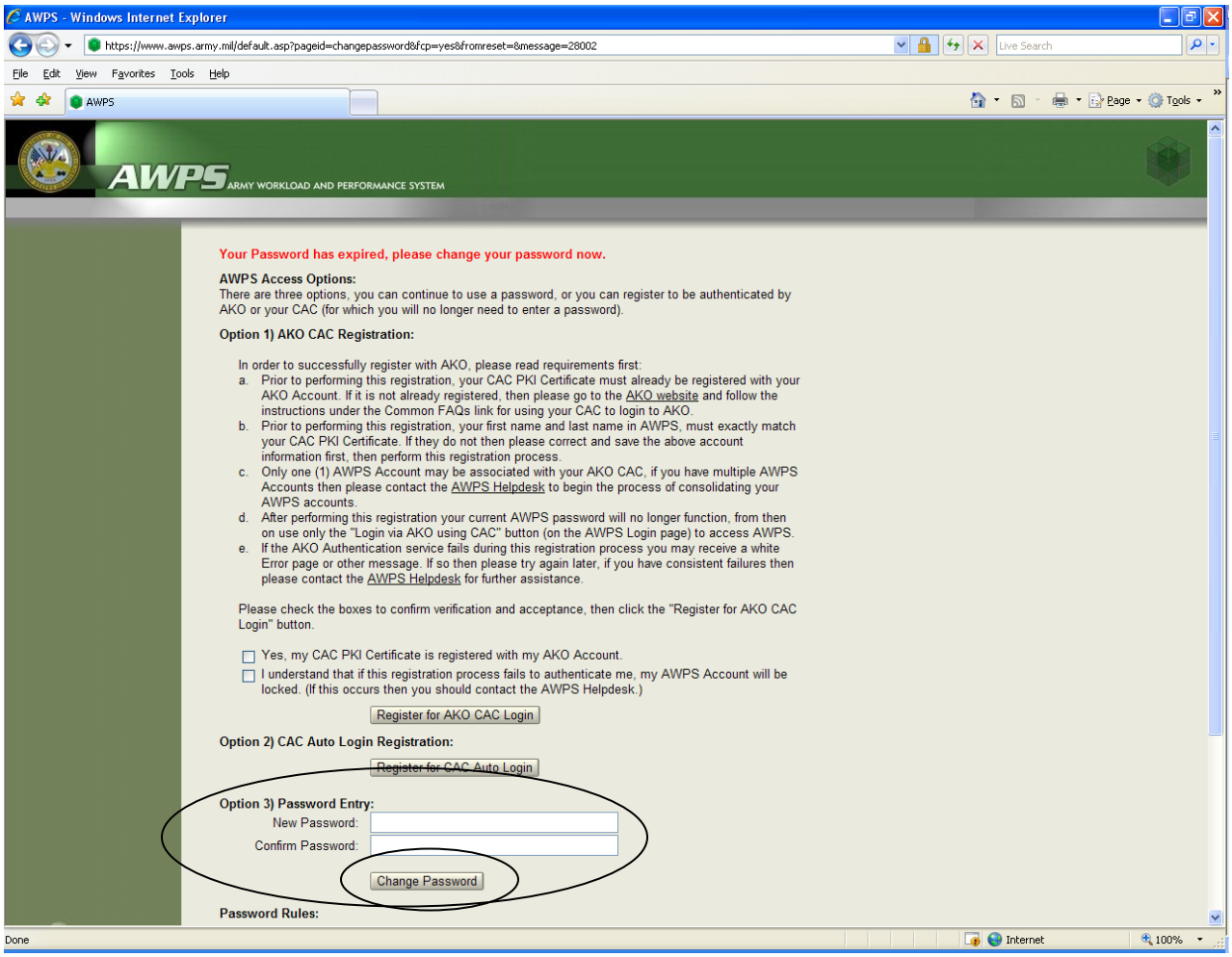


4. Enable CAC Auto Login:

Logon to the ADCF Portal using your Username and temporary Password to begin the process of association of your account with your CAC.



Your password must be reset on your first visit. (Option 3) Enter and Confirm new password. Password Rules are explained lower on the page.



Confirm account information (no picture) and proceed to JIAT Access Agreement.

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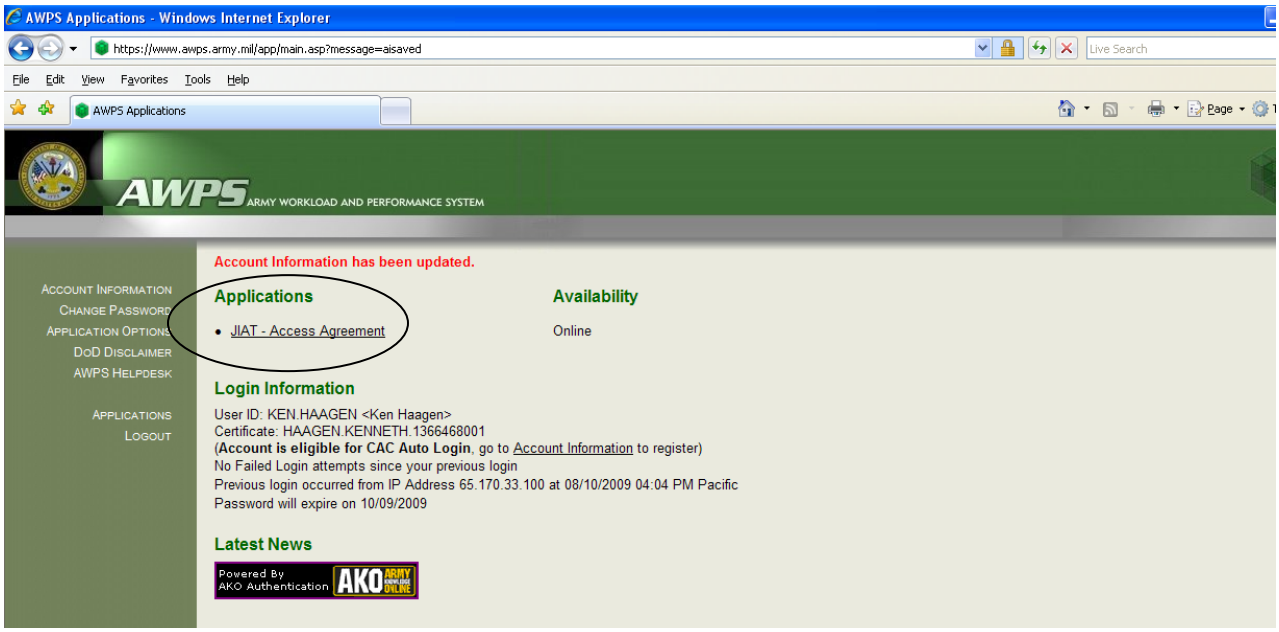
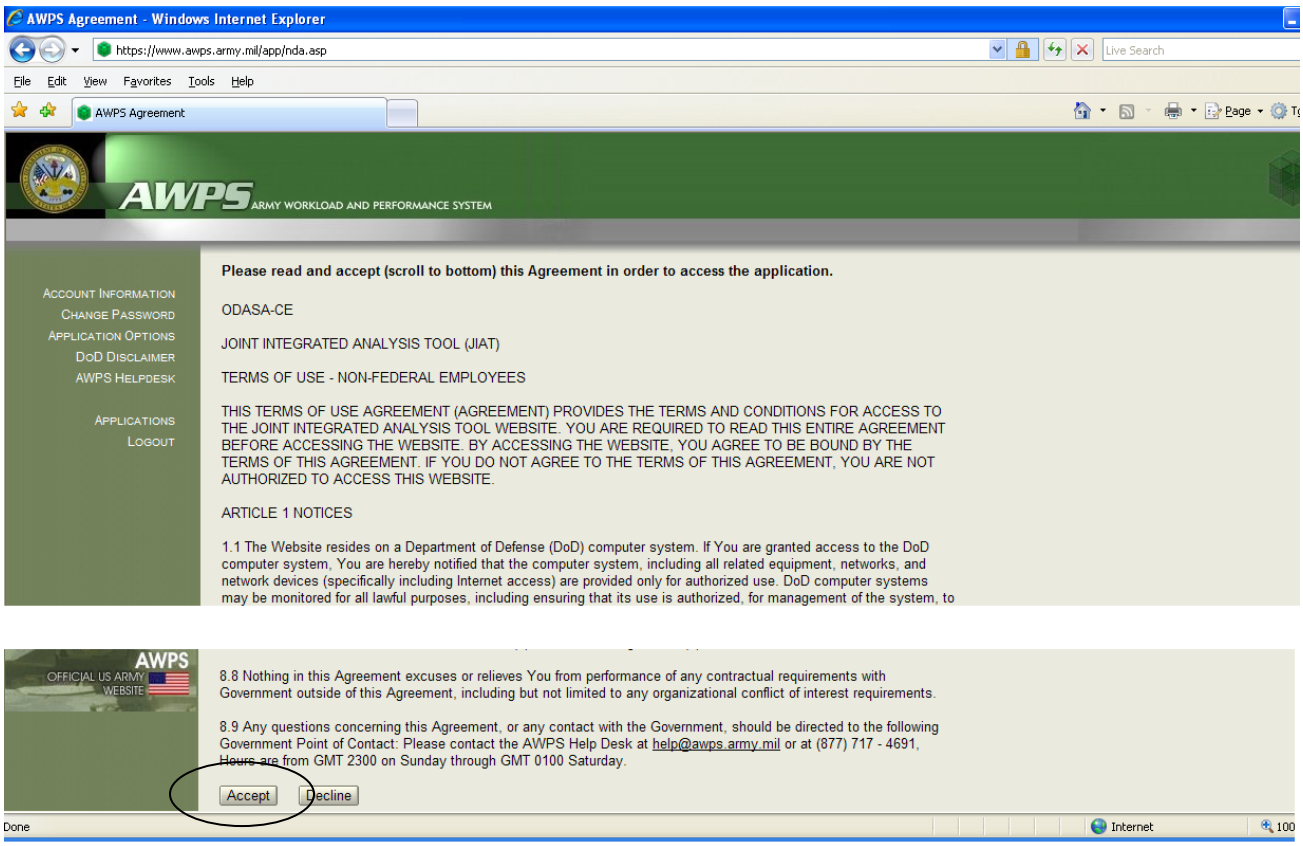
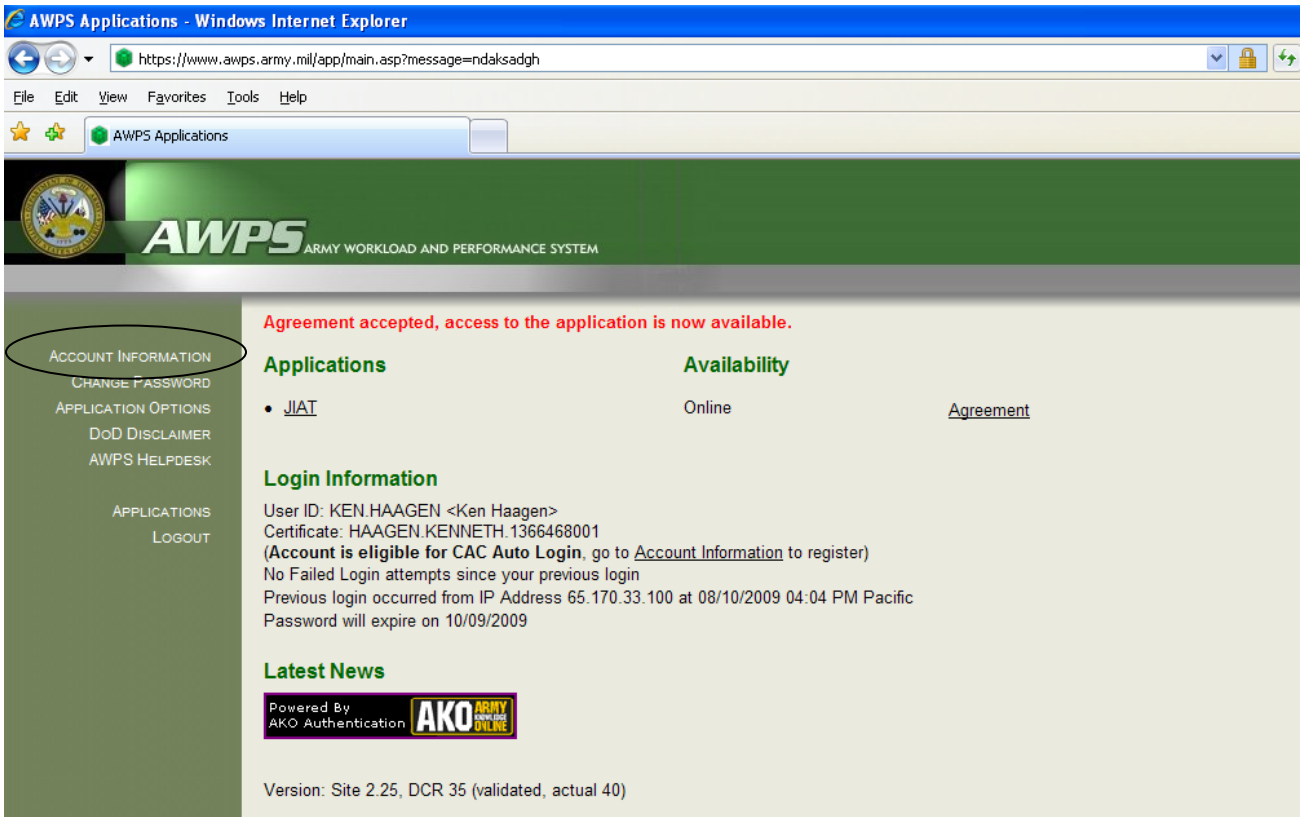


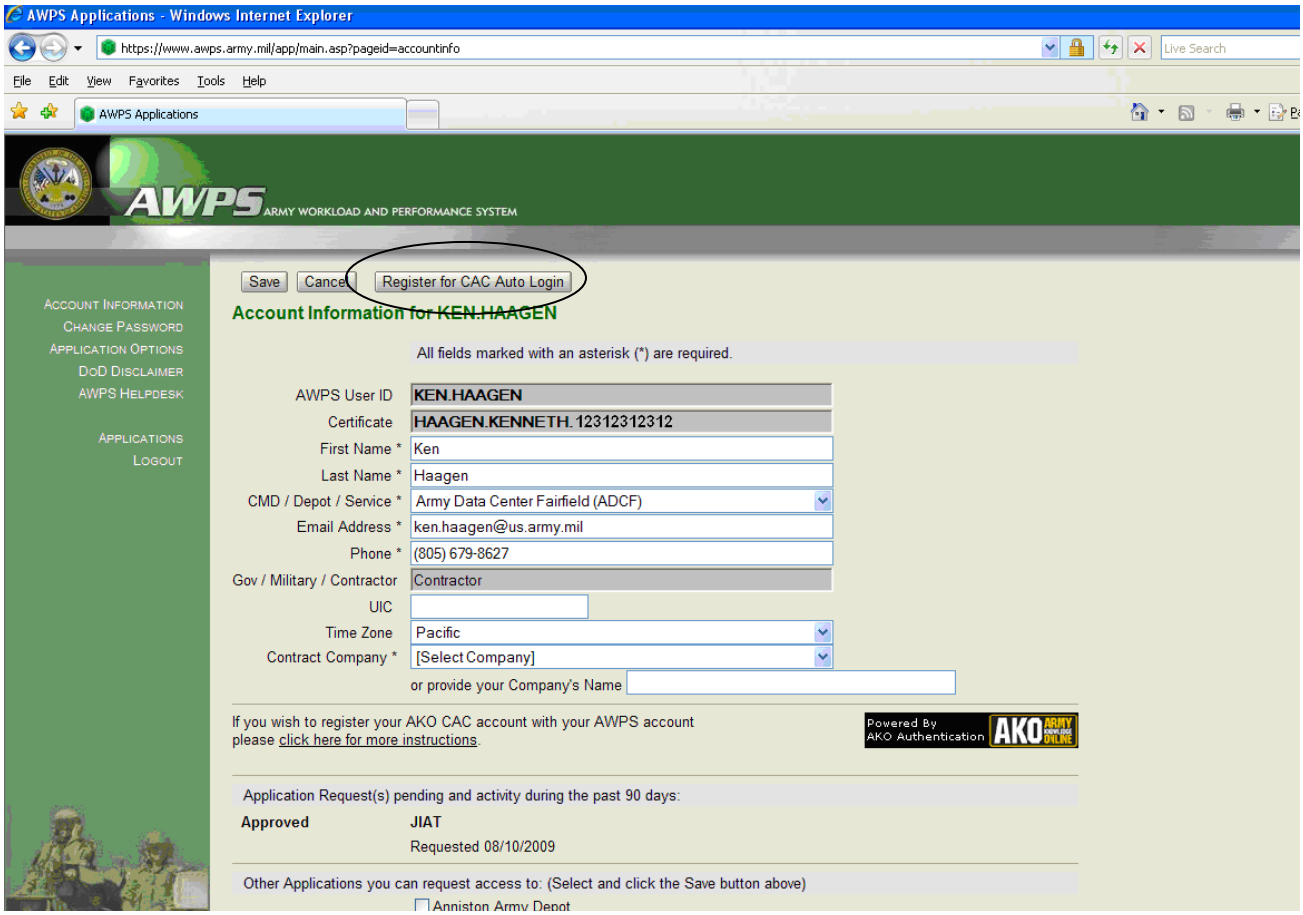
Read the License Agreement. Click the 'Accept' button at the bottom.



Agreement Accepted. Click the link to Account Information to enable CAC Auto Login.



Click “Register for CAC Auto Login.”



Click “OK” on the confirmation dialog window (no picture), then see the message “CAC Auto Login is now enabled.” Click the “Applications” link.

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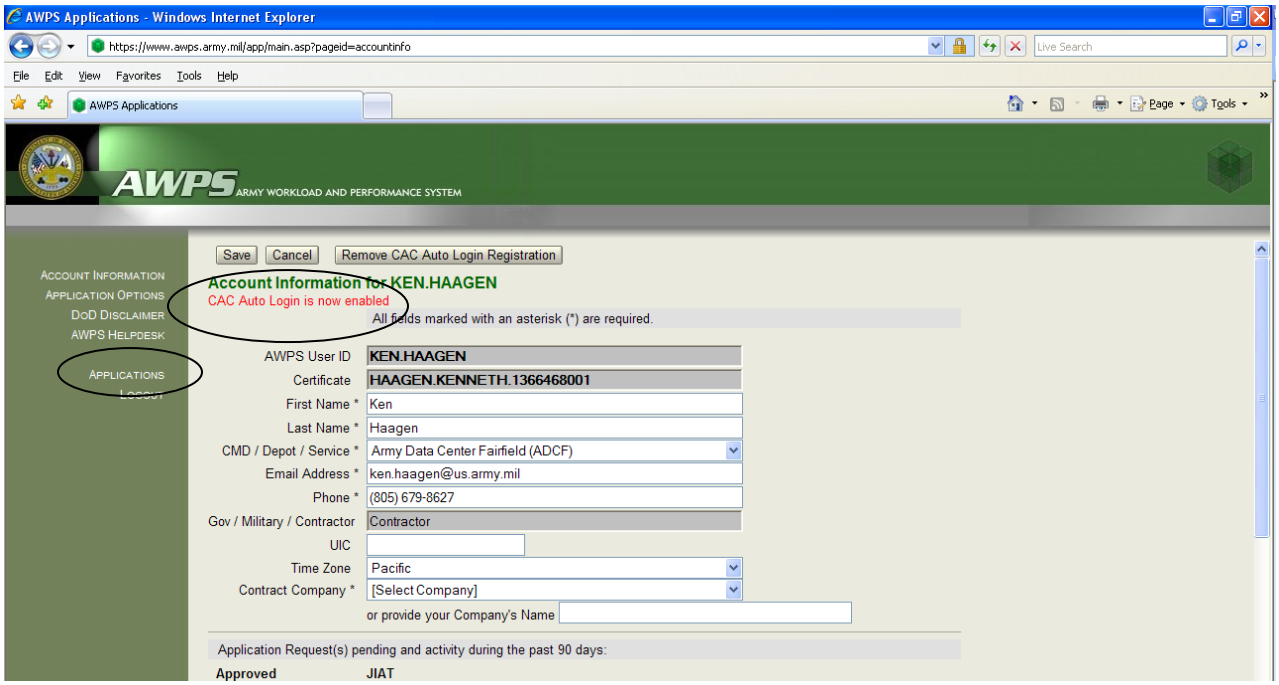
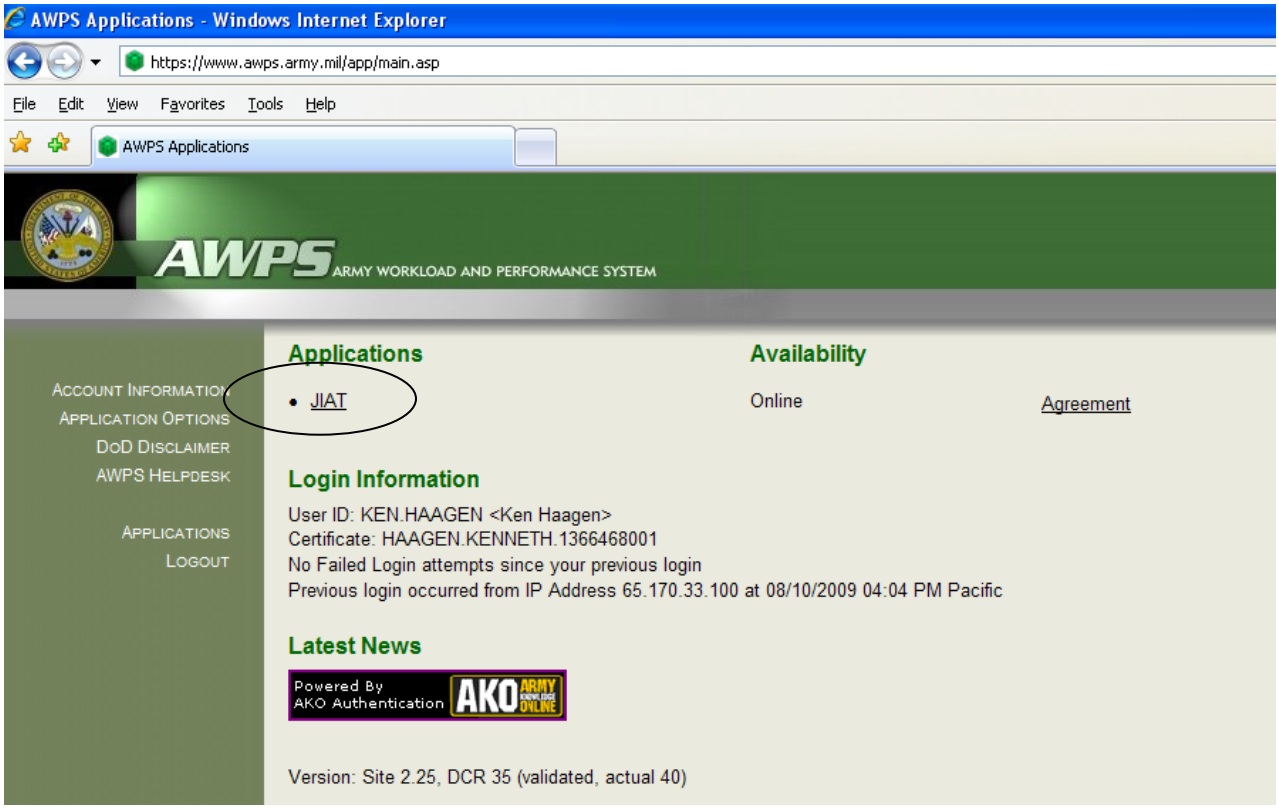


Click the JIAT link.



The presence of the JIAT Home page indicates successful connection to the JIAT server.

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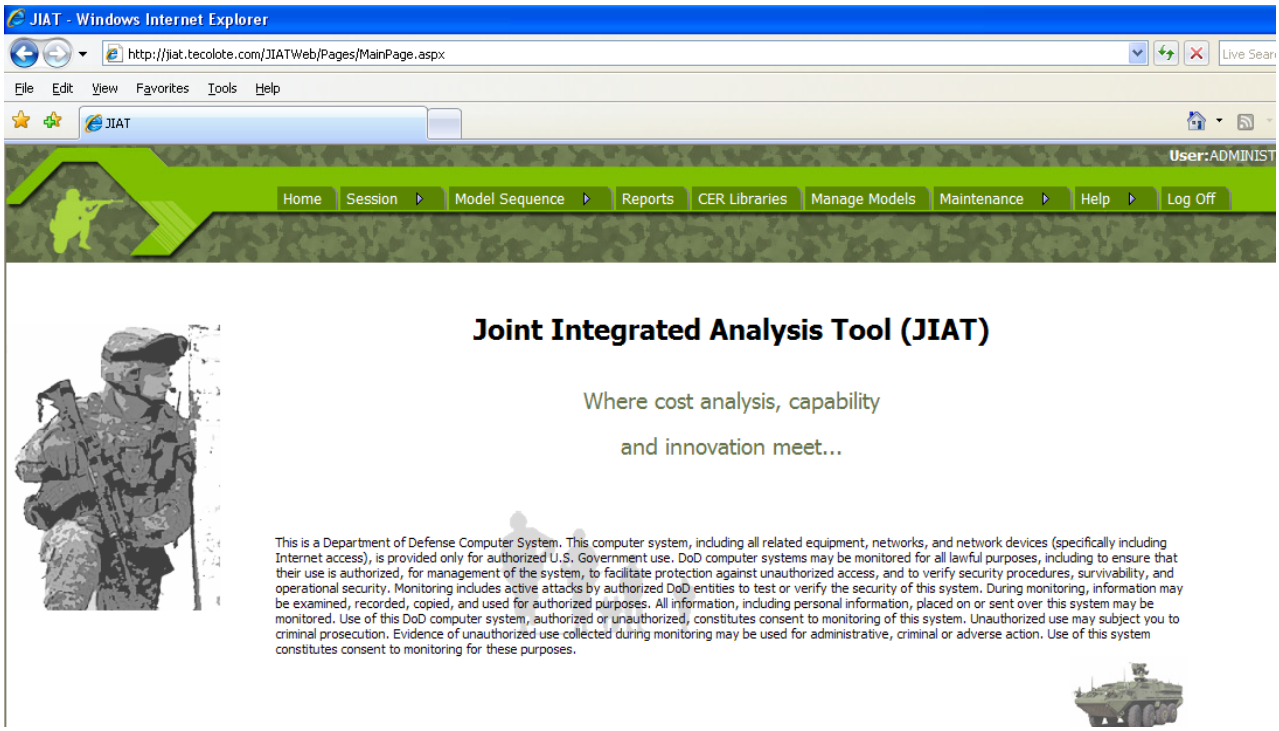
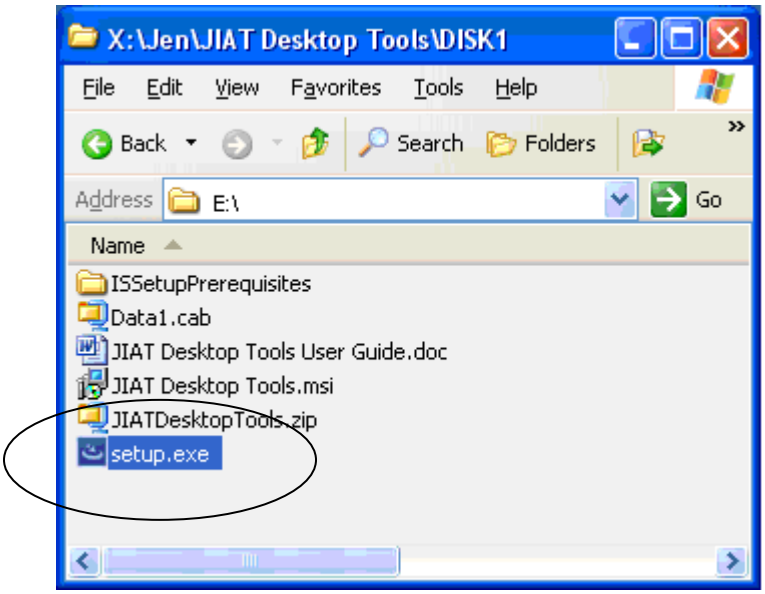
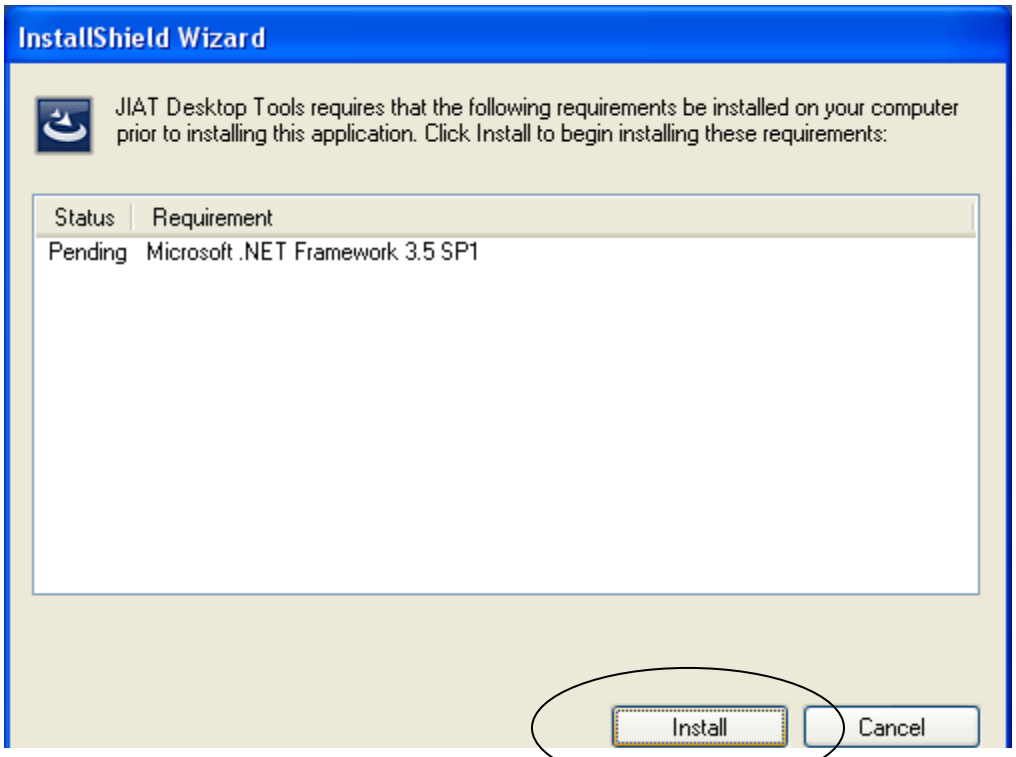


5. Install JIAT Desktop Tools:

Prerequisites: ACEIT 7.1a and Microsoft Office 2003 (Excel) must be installed on your computer before you install JIAT Desktop Tools.

Insert the JIAT Desktop Tools installation disk. Browse to the file named "Setup.exe" and double click it to run the *JIAT Desktop Tools Install Wizard*. The following steps illustrate the installation process.





Note: Microsoft.NET Framework 3.5 SP1 is a necessary prerequisite for JIAT Desktop tools. If needed, its installer will run automatically. If this occurs, allow the .NET Framework install to run and finish. Click the 'Install' button to begin, as shown above.

The *JIAT Desktop Tools Install Wizard* will automatically resume upon the completion of the .NET Framework install. The installation process is illustrated below.

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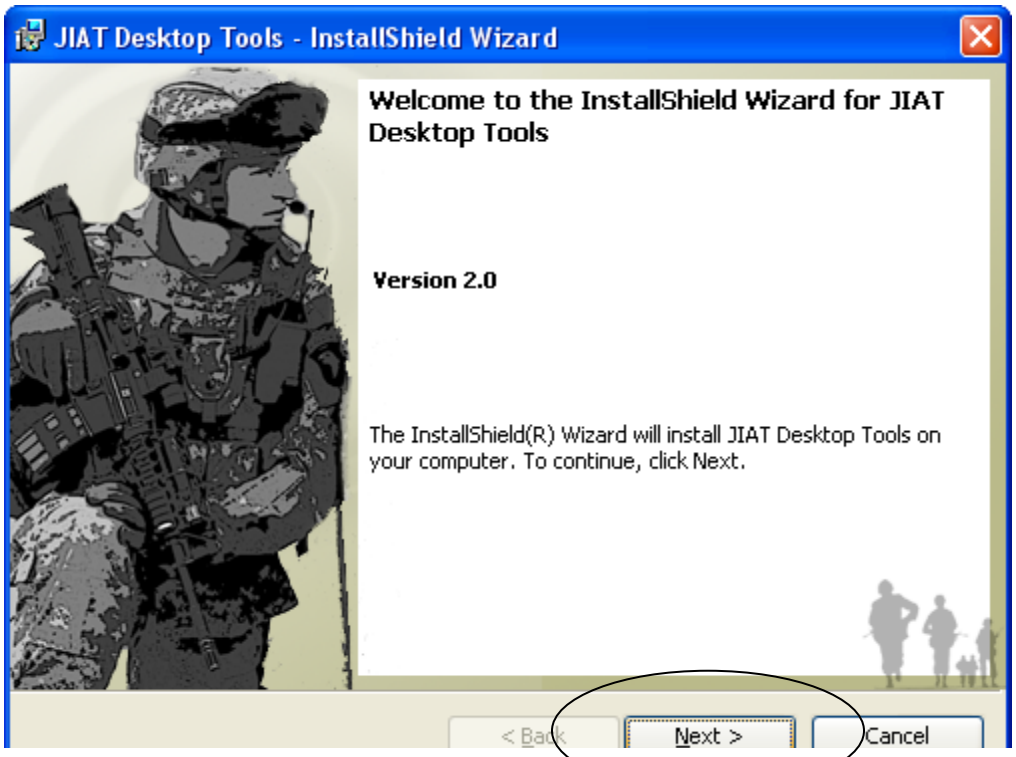

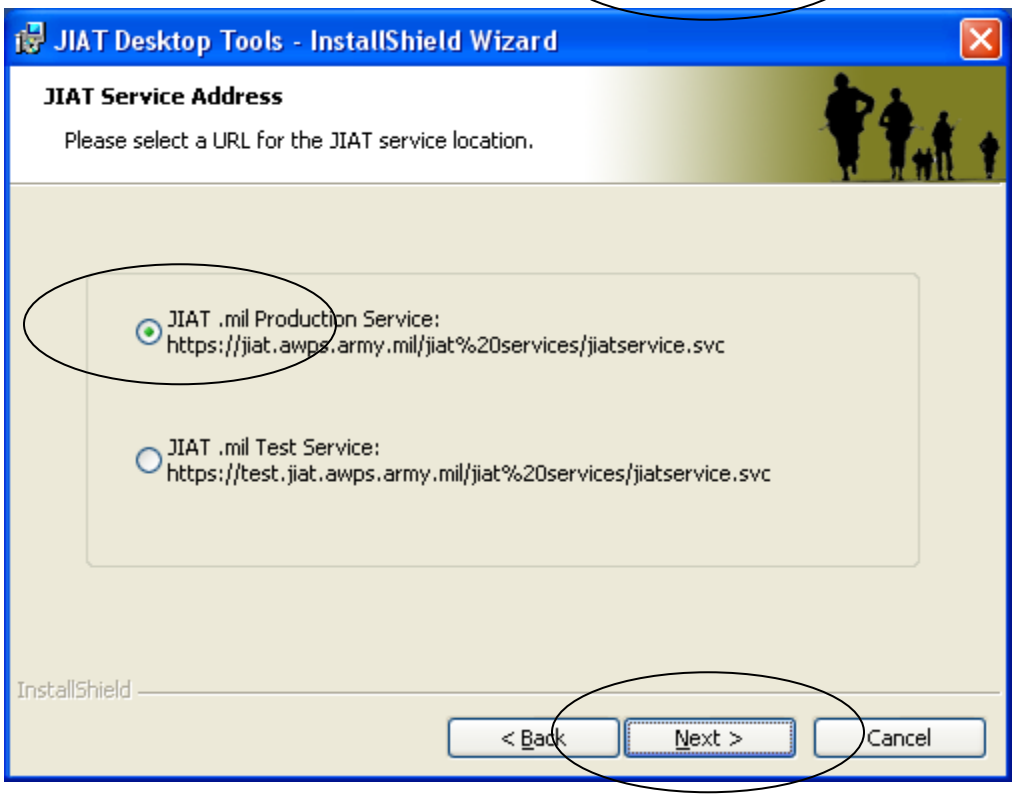

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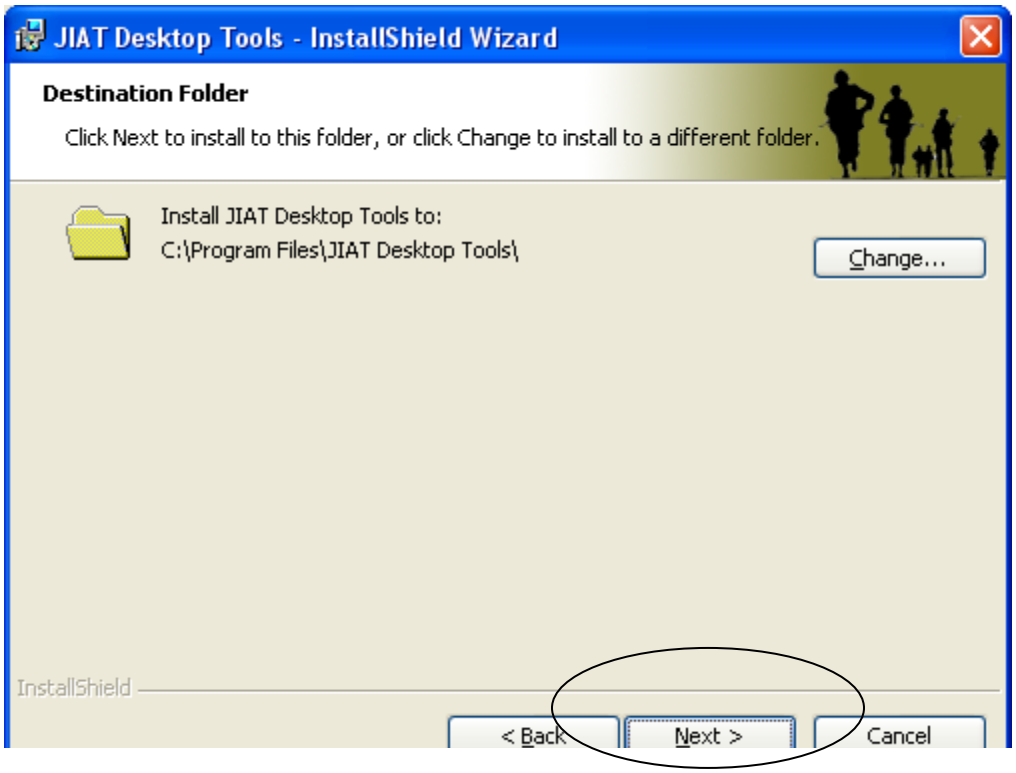

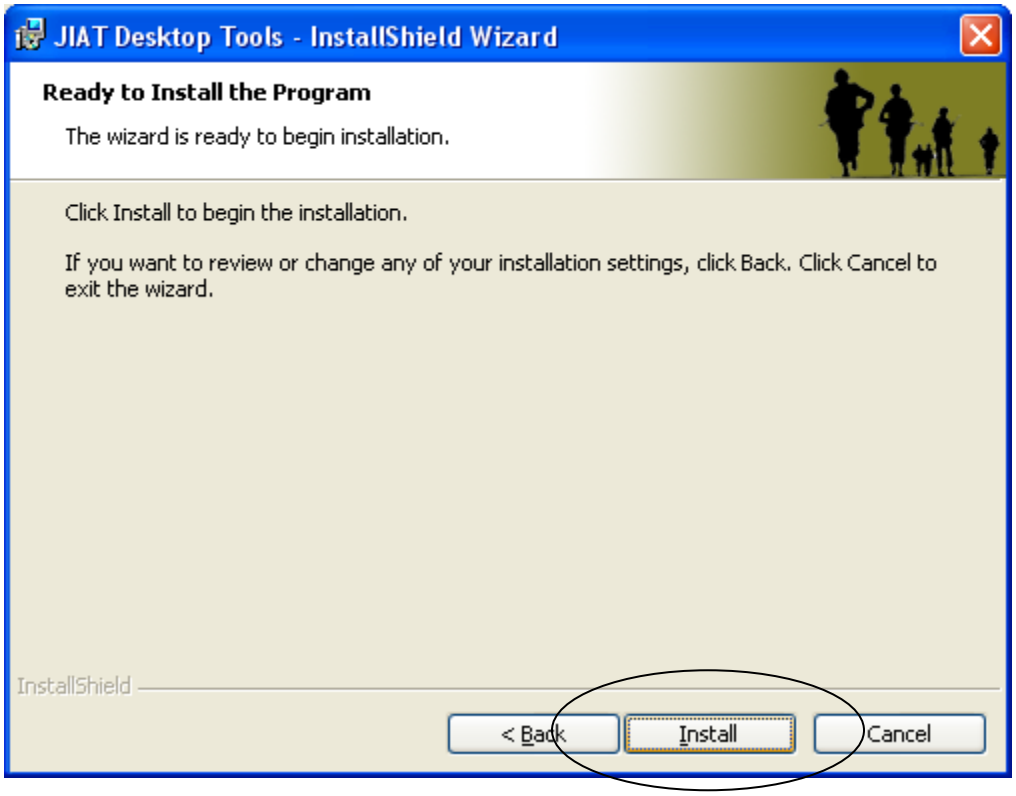

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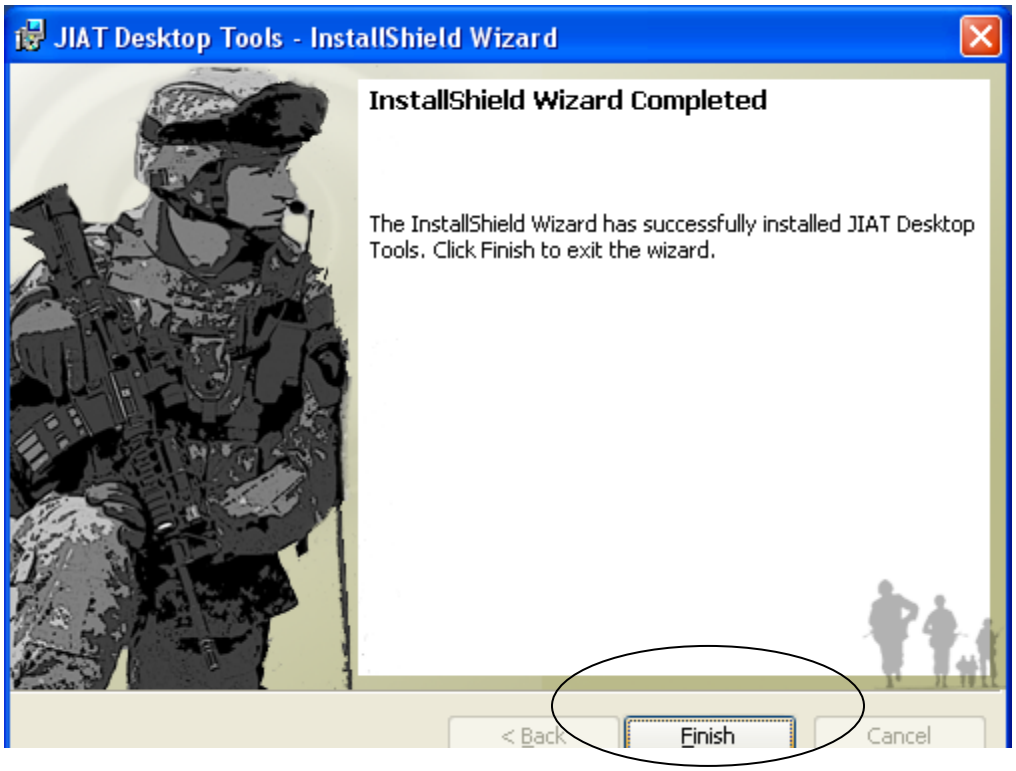
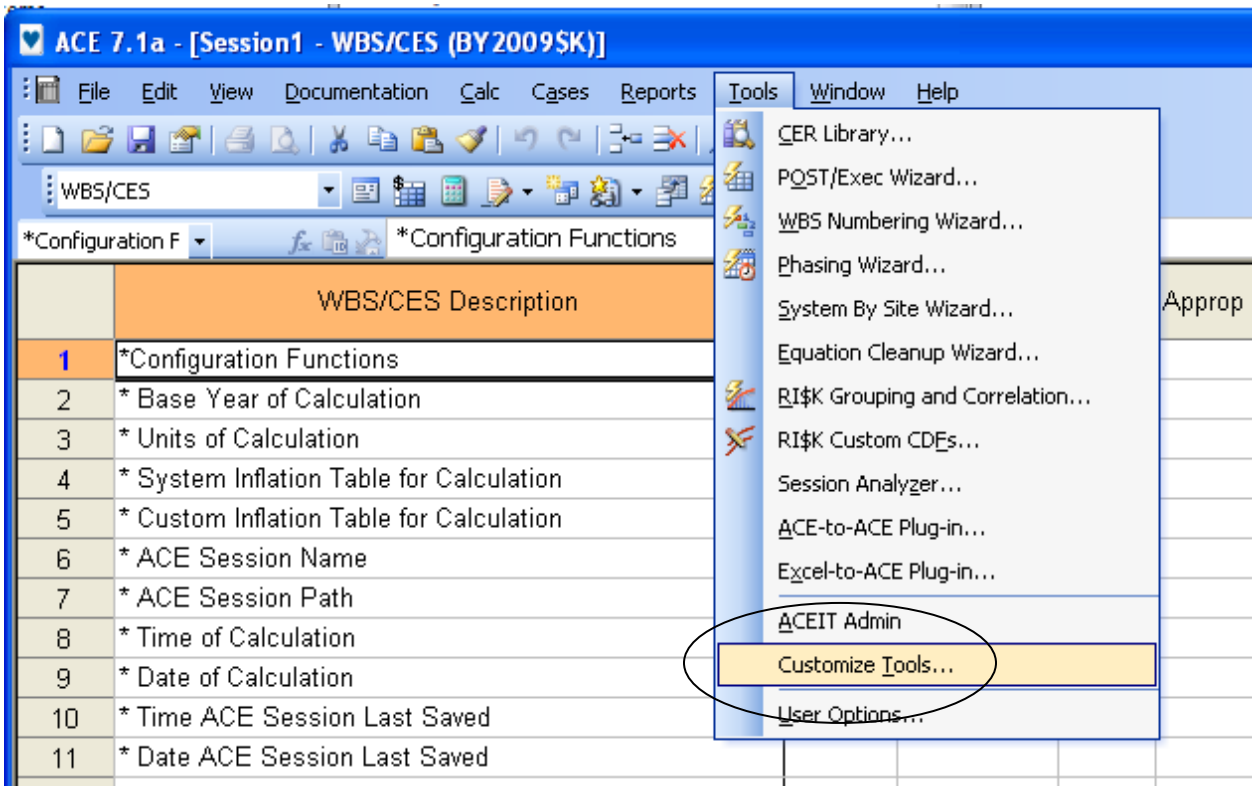
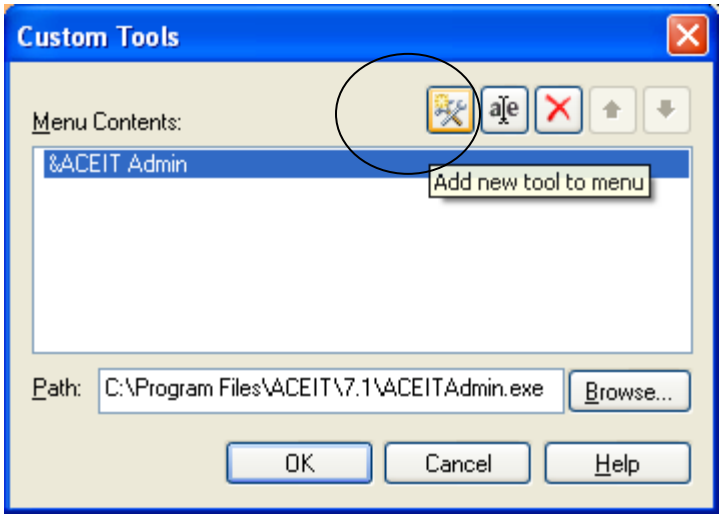


6. Add JIAT Plug-in to ACE:

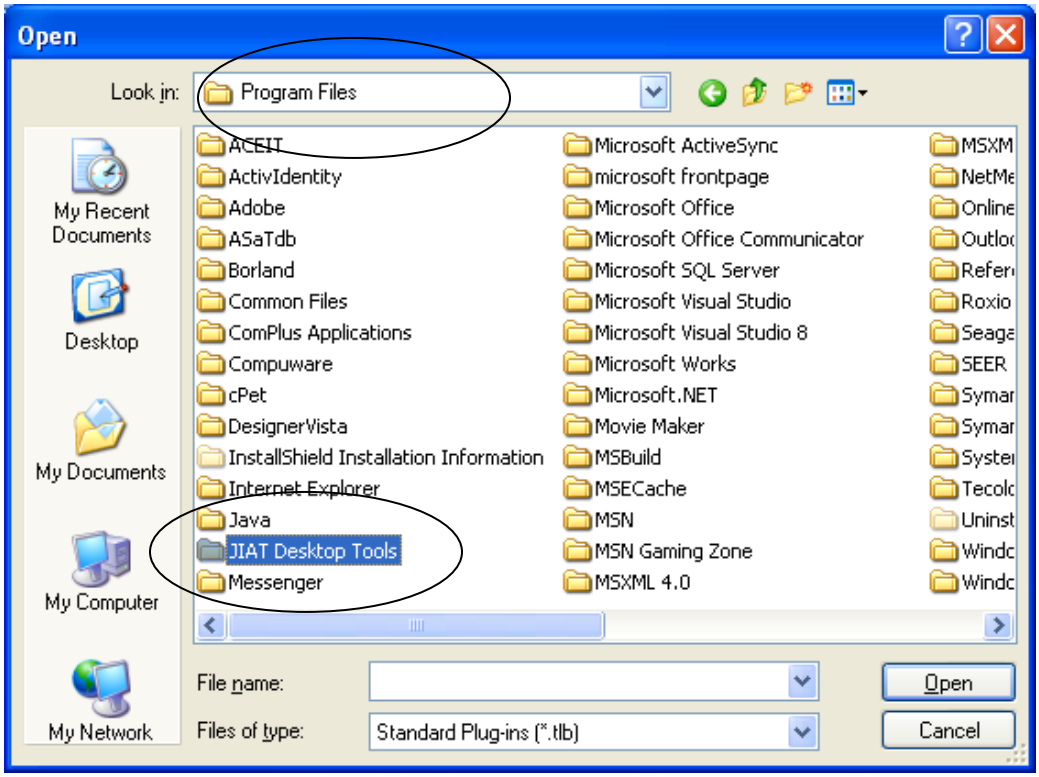
Launch the ACE application. Open a saved ACE session file, or create a new session file (File > New). Choose Tools > Customize Tools from the main menu.



Click the 'Add new tool to menu' button in the Custom Tools dialog.



In the *Open Files* dialog, use the 'Look in' control to browse to the Program Files directory. Double-click the JIAT Desktop Tools sub-directory in the list.



Select the file "JIAT ACE Plugin.tlb and click the 'Open' button.

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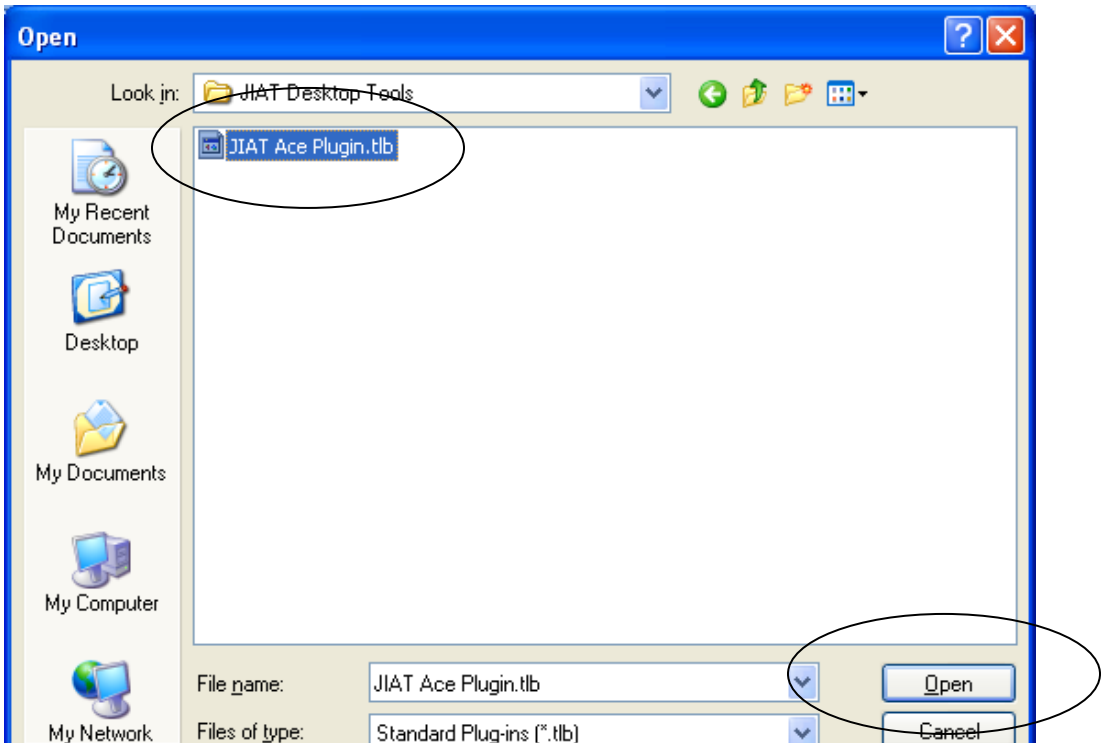
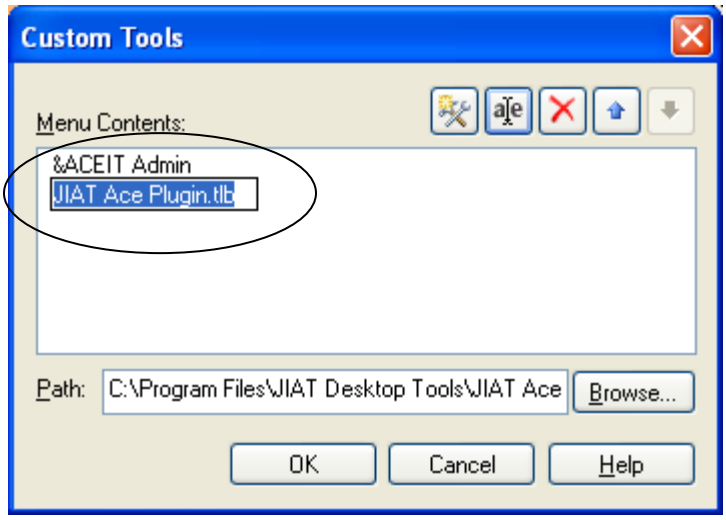
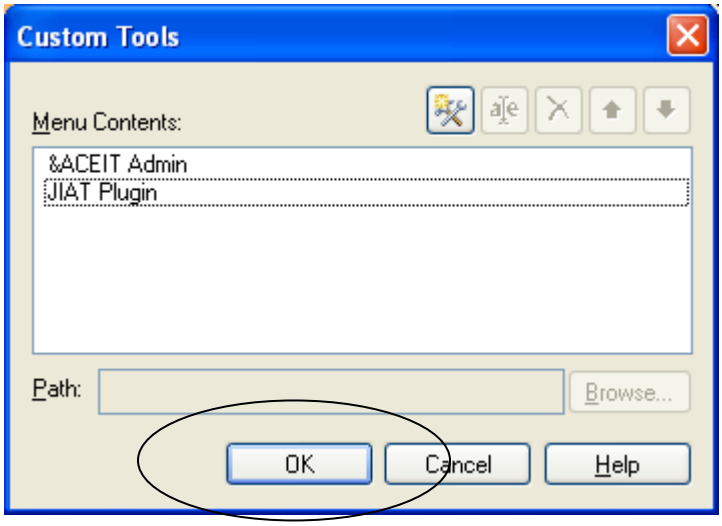


JIAT Ace Plugin.tlb is added to the Custom Tools list. For clarity, please edit this default name to “JIAT Plugin”, which is the name used in JIAT documentation.





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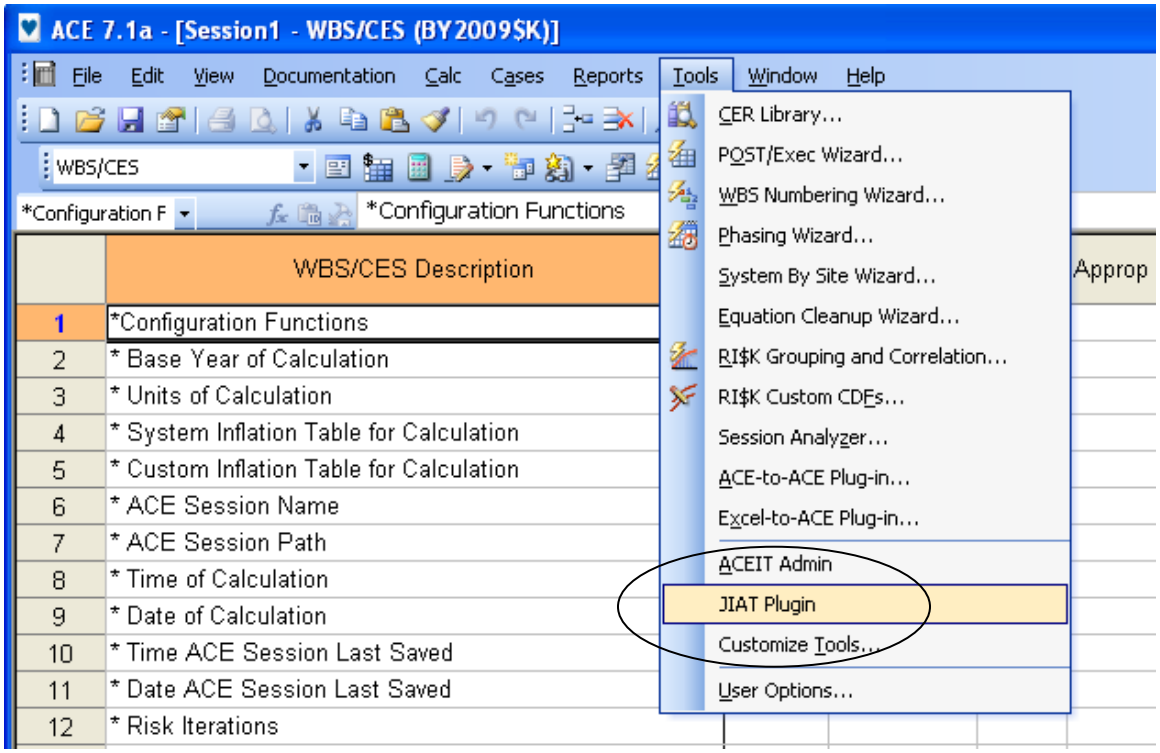
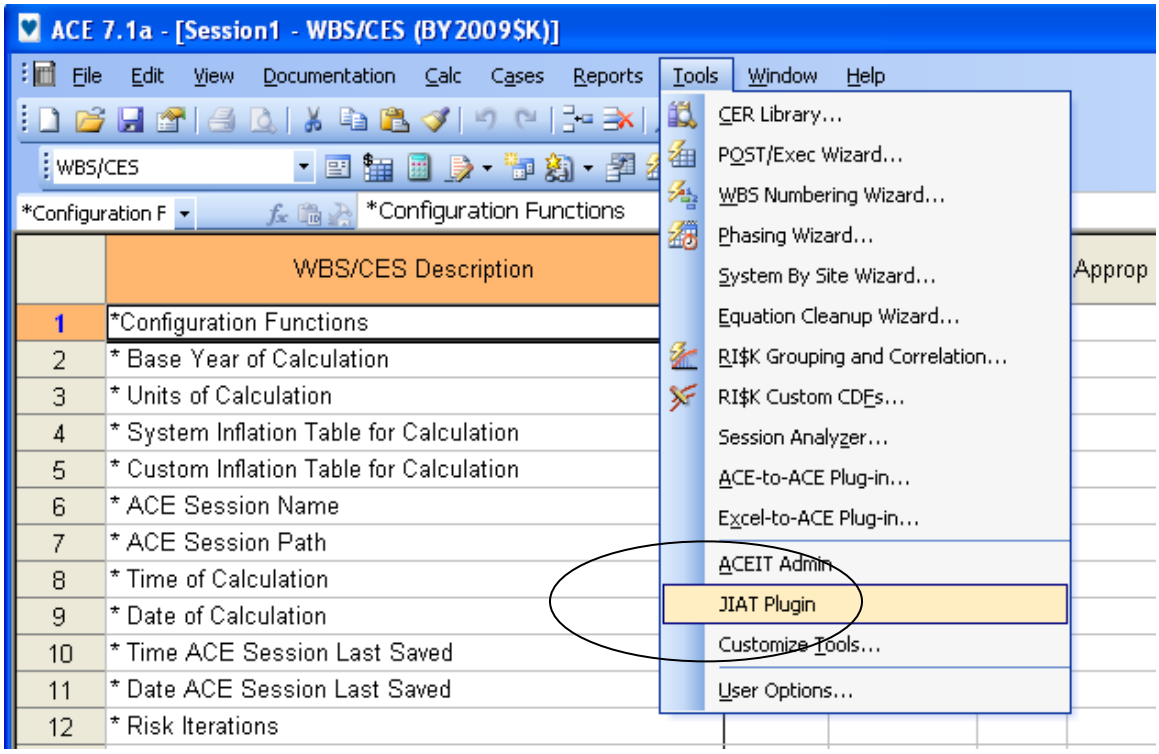
The JIAT Plugin has been added to the ACE Tools menu.



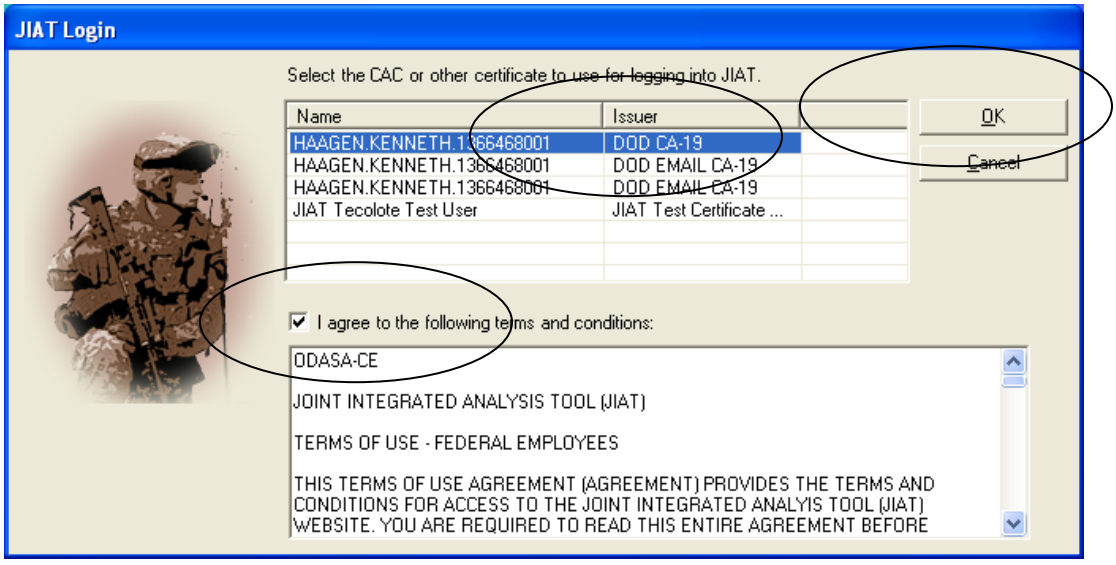
7. Test Server Connections for JIAT Desktop Tools:

- **Access the JIAT CER Library from the ACE JIAT Plugin**

Launch ACE and choose Tools > JIAT Plugin from the main menu.



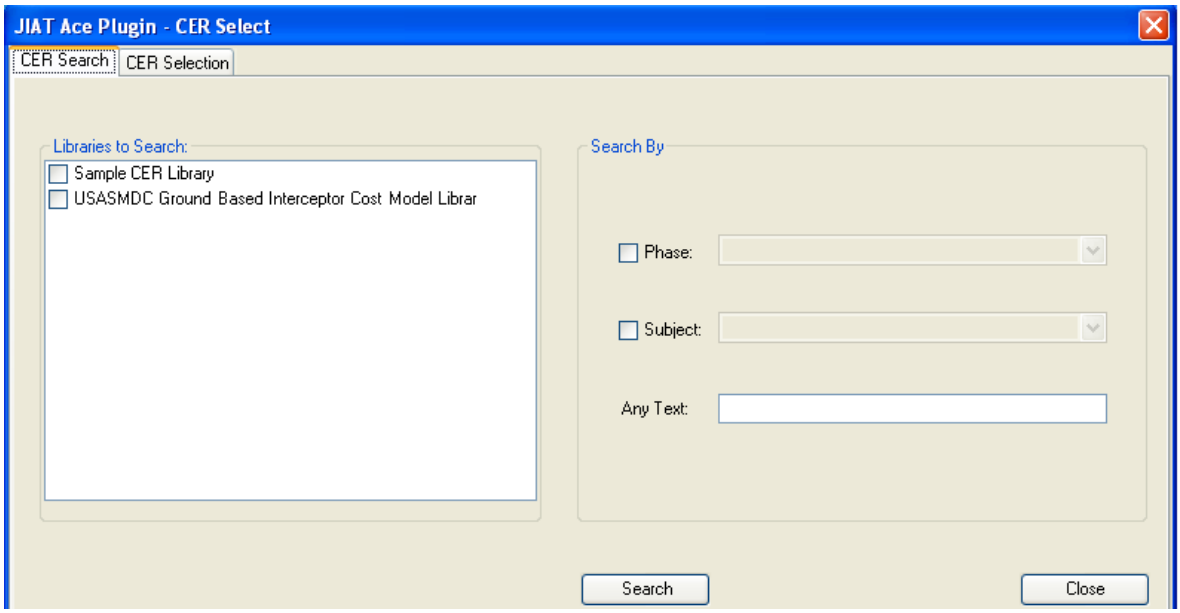
Login to JIAT: 1) Agree to the terms and conditions. 2) Select an appropriate CAC certificate. 3) Click 'OK."



Enter your PIN.

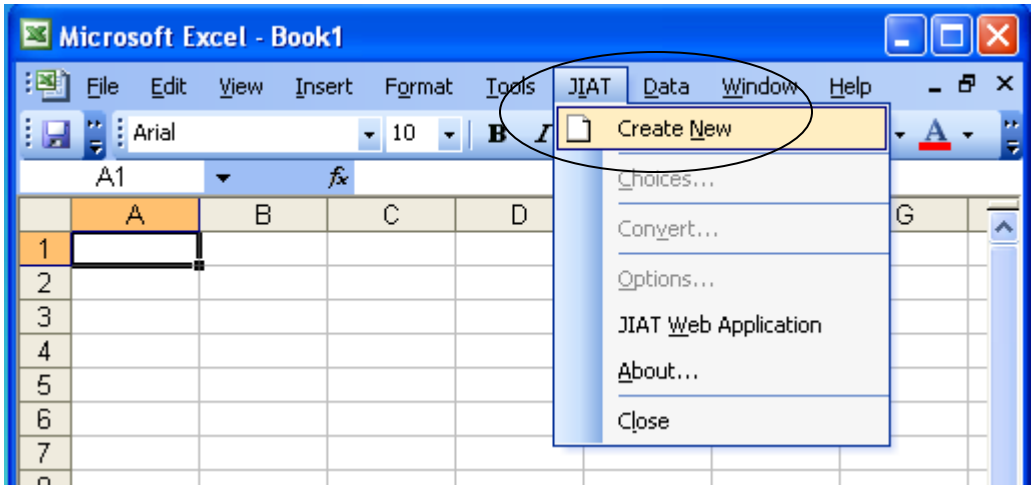
Click the JIAT CER Library button for access.

The presence of the “JIAT Ace Plugin CER Select” dialog indicates successful connection to the JIAT server.



- **Create a new Non-Time phased sheet using the JIAT Excel Add-In.**

Launch Excel. The JIAT Desktop Tools installation has automatically enabled the JIAT Add-In in Microsoft Excel. Choose JIAT > Create New from Excel's main menu.



Login to JIAT: 1) Agree to the terms and conditions. 2) Select an appropriate CAC certificate. 3) Click 'OK."

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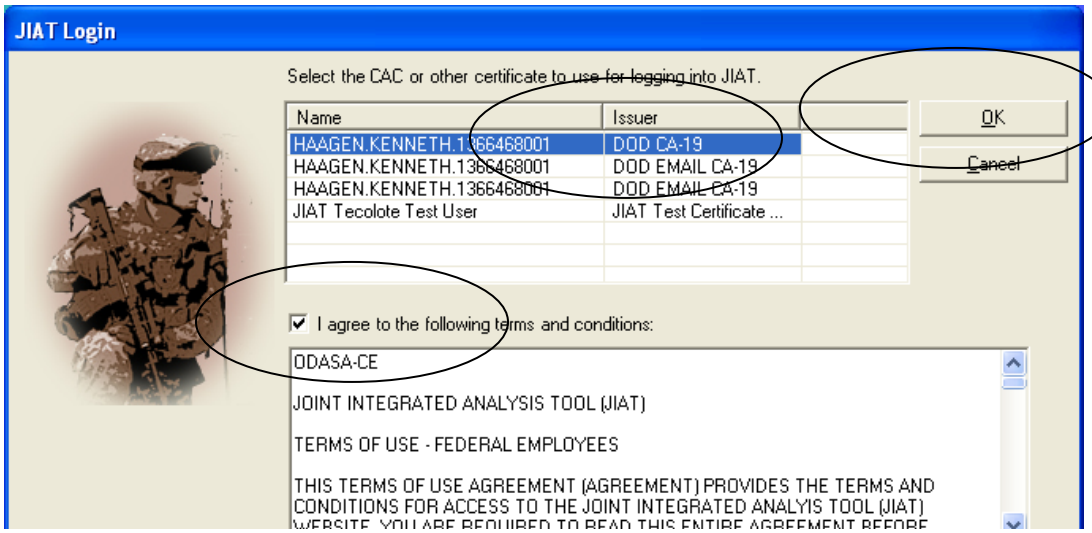
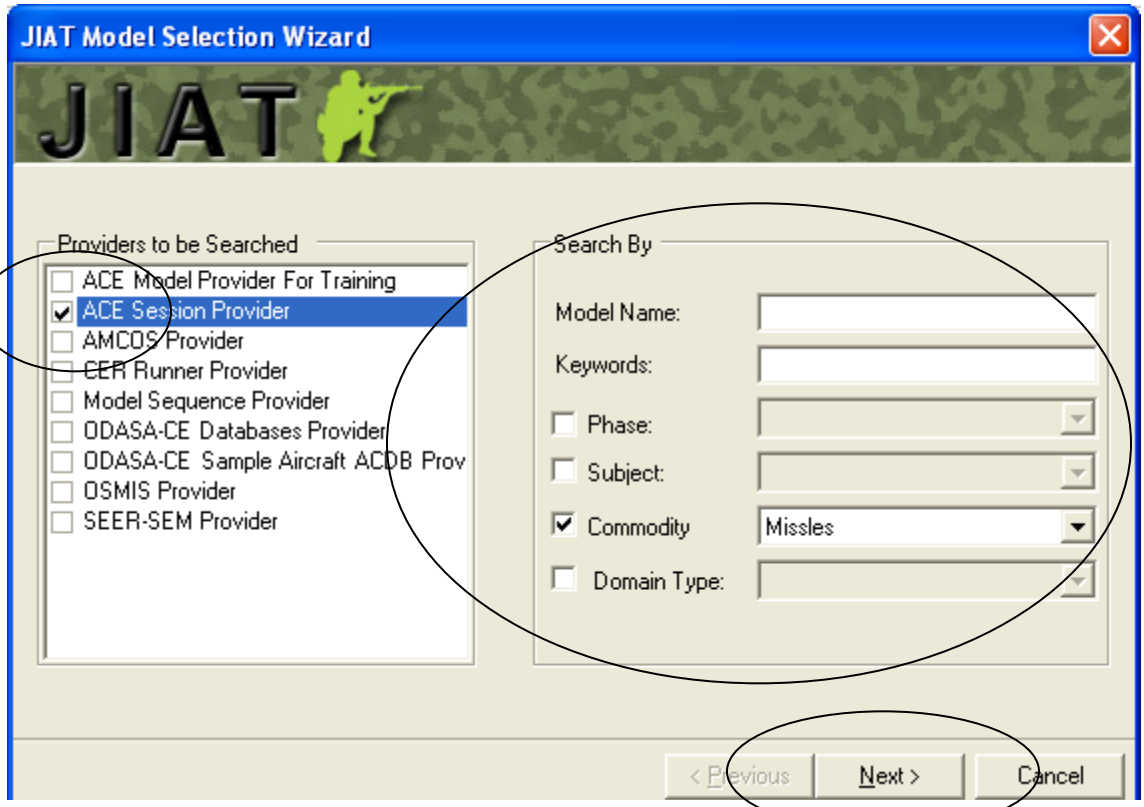
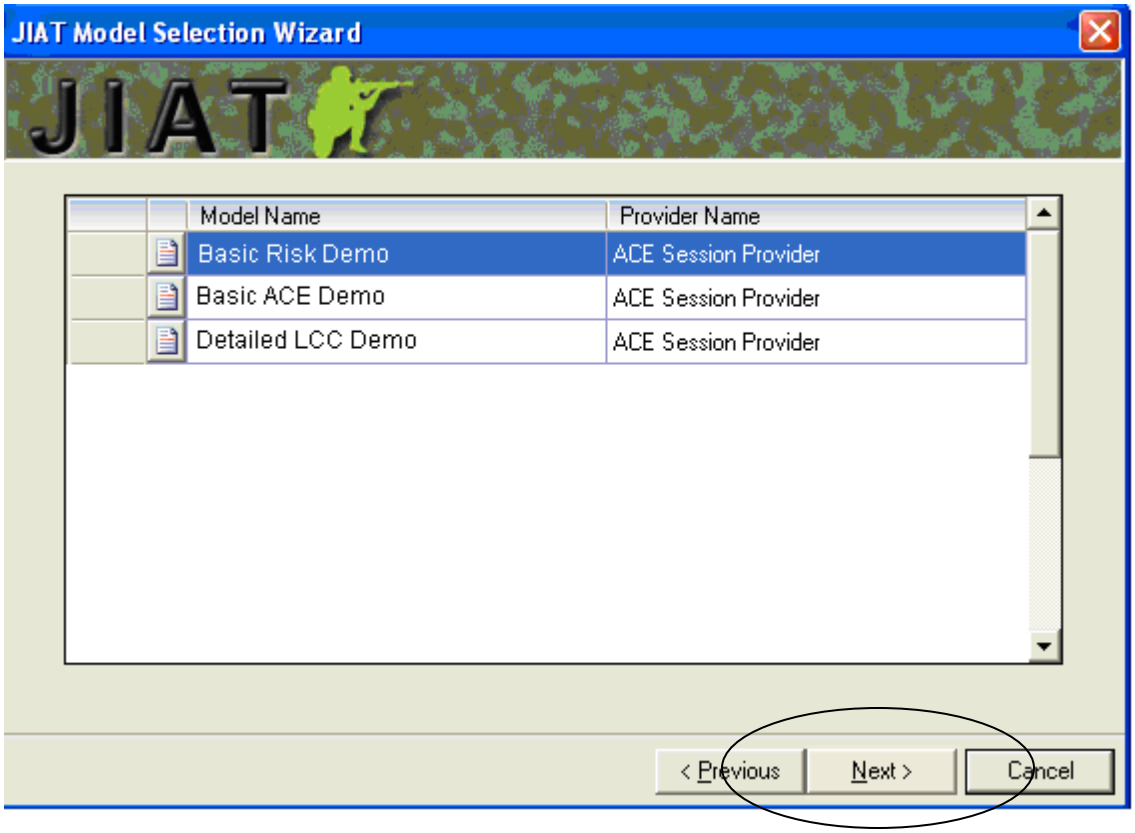


Enter your PIN.

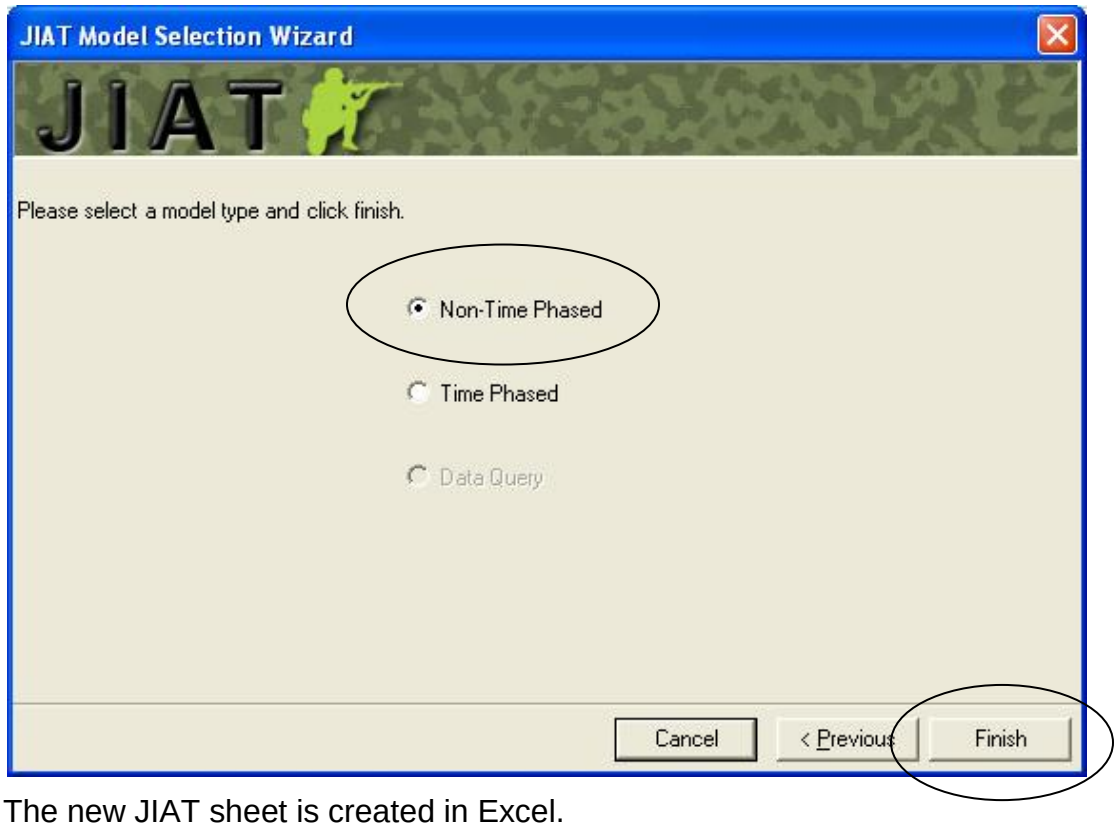
The presence of the JIAT Model Selection Wizard indicates successful connection to the JIAT server. Use the filter controls to narrow the search for available JIAT models.



Select a model from the list returned by the Wizard.



Choose “Non-Time Phased and click Finish.



The new JIAT sheet is created in Excel.

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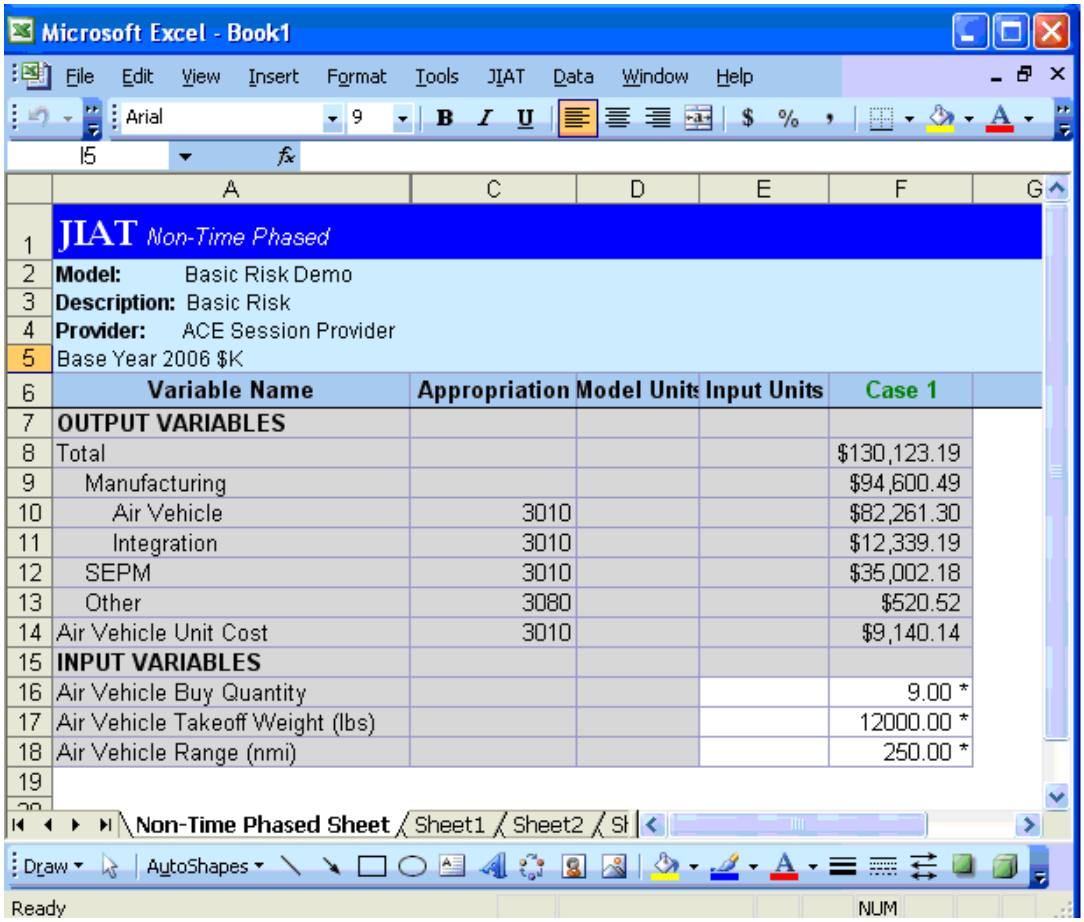

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